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TUBERCULOSIS A COMMUNICABLE DISEASE.*

BY J. M. ALLEN, M. D.

Phthisis pulmonalis has existed in the past history of man to a point where the memory runneth not to the contrary. Thousands of pages have been written on this subject. Numerous plausible theories have been presented as to its etiology, pathology and treatment, in which we find scarcely a grain of truth.

Possibly the most accurate description up to his time was given by Leannec of Paris. Later, Louis of Paris gave a description of its pathology which was possibly equal to any we have now. In his accuracy of pathology, he pointed out the fact that the most frequent point of attack in the lung was its apex, without being able to give a reason.

Now we know the reason to be the lessened amount of blood circulating in this portion of the lung as compared to other portions. Therefore, this portion of lung's powers of resistance is greatly decreased because of the absence of leucocytes.

The first valuable truth in connection with this disease was promulgated by our gerat medical philosopher, Austin Flint, namely, that the disease was contagious, but was unable to explain why. It remained for Koch to make this discovery in finding and demonstrating the tubercle bacilli. This verified the assertion of Flint, although it had been doubted by many. These discoveries gave a new impetus to the study of this disease, and we have been working along safer lines, although we have not added a great deal in establishing a fixed and reliable treatment.

Recent discoveries demonstrate that the bacilli may exist with all of its vital force for a long time. Further, that mixed with the dust of the atmosphere, it may move along the currents of atmosphere, and, by this means, be received in the mouth and pass into the structures of the fauces and be carried by the lymphatic system to four principal

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points by natural selection, which are the apex of the lung, next the duodenum, then the glandular system, lastly bone.

These three truths, namely contagion, existence of a germ, and its being disseminated in the atmosphere, must make the basis, at present, of our efforts to eradicate the disease.

The fact that these germs can be destroyed by germicidal remedies is the only force that we have to battle with against this dreadful disease. We must begin with our residences, offices, school houses, public halls, hotels, railroads and any where else that people do congregate because there cannot be any congregation of people unless there is more or less of those who have heredity and the disease developed to a greater or less extent and liable to expectorate the germ. Private families in which there is the slightest probability of hereditary tendency should be compelled by a law to disinfect their houses. The same is true of our school houses, offices and public buildings. No railroad passenger trains should be allowed to start across the country without first being disinfected. The upholstering in our luxurious cars is admirably adapted to retain for a long time this germ in its dried state, and it is a question with me whether or not the state should not compel the railroads to do away with all upholstering. Our citizens are rapidly recognizing this danger and are doing away with the luxurious Brussell's carpet, and using rugs that can be cleaned. The medical profession should encourage this as far as possible.

I have mentioned only three facts that we absolutely know in regard to consumption. There is one other point in connection with this disease that I desire especially to call your attention to, because I think a knowledge of how to control it is absolutely necessary before we can say we are masters of the situation. I refer to heredity, which is so strong that it will sometimes skip two or three generations. It seems to me if the energy of the medical profession was directed on this point, we might be enabled to solve its mystery and forever eradicate the disease.

Many theories have been offered on this subject, as to the nature of heredity, none of which seem logical to me. I will reiterate a theory on this subject that I presented to this society several years ago in reporting some cases of tuberculosis treated successfully by serum. As a basis for this, I will assert that the life and development of all germs depend as much upon its environments as does the life and development of man.

Secondly, as a demonstration of this, we will take two forms of germs, one of which cannot live without oxygen, the other can. Again, I assert that germ life in the human being depends upon a distinct entity, and its lives and developes in the human body just as long as this entity exists. This, I think is the correct explanation of the fixedness in type of all epidemic diseases. In the case under question,

one of the difficulties in investigation is that only a small portion of the population possess this entity by heredity. The other portion of the population have not this entity and are not in danger of invasion by the tubercle bacilli. To illustrate, all of the human family possess the entity of supporting and developing of smallpox germ, but after one attack they are immuned, and the germ can no longer live within their bodies. The direction that I think the medical mind should be turned is fully represented in the search that Jenner made when he discovered that Kine pox would immune against smallpox.

As much as I admire the noble humanitarianism that prompts the universal action of the medical profession in its crusade against the spread of tuberculosis, I cannot hope for any permanent effort to eradicate the disease until we know something by which we can destroy this entity or food in a certain class of the human family upon which this germ lives and develops.

The serum treatment is going in the right direction. I treated three cases of tuberculosis with serum over twelve years ago, that are now well. Tuberculin is also going in the right direction and I believe the remedy will yet be found to immune those who have a hereditary tendency to phthisis, either by the destruction of this entity or by the increase of the opsonins in the serum of the blood.

SANITATION AND TUBERCULOSIS.*

BY GEORGE HOMAN, M. D., ST. LOUIS, MO.

This being the topic assigned to me for brief consideration it may be stated at once that if by sanitation is meant "the devising and applying of measures for preserving and promoting public health, the removal and neutralization of elements injurious to health," then in the light of present knowledge respecting tuberculosis the prevention of that disease is not difficult, and ordinary intelligence and common sense when brought to bear on the question will avail much in measures planned for its curtailment and overthrow.

In obedience to the law of nature in every domain of life the existence and extension of the disease known as tuberculosis is due to seeds, and the behavior of these microscopic germs in their successive generations is not vitally different from the development of seeds of other forms of vegetable life that are visible and tangible to unaided sight and touch.

If all classes of our population could be brought to realize that the growing of a crop of consumption is just as natural and orderly a process as is the growing of a crop of cabbages or corn, and that the elements of seed and season and soil and surroundings must be care-

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fully considered with respect to each, the way for the eradication of consumption would be made more clear and the means of prevention become more easy of application.

If it is the desire of the farmer to extirpate from his fields the useless or noxious plants known as weeds this is done by destroying their growth before maturity or by the destruction of the seeds by fire or other means. These forms of plant life being usually of an intrusive nature and hardy growth vigilant watchfulness on the part of the husbandman is demanded to keep them in subjection so that no encroachment on beneficial crops shall occur; and further the ground must be carefully and repeatedly searched for evidence of renewed growth.

Similarly, the human soil exposed to invasion by tuberculous germs should be made as sterile and unwelcome as possible to such an implantation by the avoidance of predisposing causes and harmful exposures, and every care observed to destroy the known seeds before they can secure lodgment in the body either by being breathed in, swallowed, or otherwise acquired.

As all such seeds or germs must necesarily have come from a former matured crop, and as such ripened product is usually derived from a person having pulmonary consumption, it will be seen at once that everything that such a person coughs up or passes in the excretions should be deemed dangerous to other persons within reach, and every care taken to destroy instantly all such expectorations and excretal discharges.

So long as these germs or seeds remain in their naturally moist condition there is little risk of their being spread abroad, but when the expectorated matters become dry and powdered, and the germs are set afloat in the air subject to being taken into the lungs by respiration, or by being swallowed after settling in milk or on other exposed food substances, the danger becomes a special as well as a general one for every person receiving them in whom the soil is fit, the season favorable, and the circumstances congenial will almost inevitably become infected, and reproduce the disease to the peril of those about him, many of whom may be uninformed of their danger, and this may be true even of the sick person himself.

Inasmuch as the person who thus propagates the disease cannot be summarily seized and destroyed, his fellows exposed to this danger have the right in self-protection, to demand and require that everything coming from him and liable to communicate the infection shall be destroyed forthwith, for as a matter of fact the instant destruction of the spittings and stools of consumptives by fire or chemicals very nearly sums up the whole question of sanitation in tuberculosis, as any negligence at this vital point may defeat or vitiate all later efforts—for once the seeds are set free who can fix bounds to their reach and spread or tell their ultimate destination!

The recognized nurseries of tuberculosis are within doors, usually dwellings or private residences that have sheltered or are sheltering consumptives, whose infectious sputum has been improperly cared for and, becoming dry, has contaminated carpets, hangings, upholstered furniture, etc., and which together with domestic dust is kept more or less constantly in motion through the household operations of sweeping and dusting, by walking, dancing, etc., thus inducing the disease in the healthy and reinfecting the sick who may be on the road to recovery.

Here, then, are the two crucial points in the sanitation of tuberculosis, first, the immediate unsparing destruction of everything coughed or spat out by consumptives or those suspected to be such; and, second, the disuse forthwith in homes, and elsewhere that people assemble, of all means by which dust is set into free motion—in short the introduction and use of dustless methods of cleaning in households, schools, hotels, clubs, theatres, business houses, etc., and the total banishment therefrom of the ordinary broom and feather duster, and implements of like kind.

By the application of these two fundamental reforms the great highways on which tuberculosis moves to attack human populations will be effectually closed, and while there may yet remain some concealed routes and by-paths of morbid approach still the main avenues will have been guarded and the desolating plague of to-day will then sink to inconsiderable proportions as a factor of mortality in every country that claims to be civilized and enlightened.

The realization of these reforms, however, is contingent on the thorough spread among all the people of a knowledge of the nature of the disease, and this demands a persistent campaign of education by means of the public press united with the influence of well-conducted sanatoriums and other like institutions established for the healing and teaching of the tuberculous sick.

EARLY DIAGNOSIS OF TUBERCULOSIS OF THE LUNGS.*

BY LOUIS M. WARFIELD, M. D., ST. LOUIS, MO.

It seems superfluous to emphasize the importance of the diagnosis of tuberculosis of the lungs in the incipient stage. When we remember, however, that the cure of the patient depends largely on the recognition of the disease at the earliest possible moment, the responsibility that rests on our shoulders is truly great. If the medical profession would adopt for its motto, "On the bare skin only" many a life would be saved.

The classification adopted by the National Association for the Study and Prevention of Tuberculosis includes three stages of tuberculosis of the lungs. Only the first stage concerns us, and only the symptoms and signs of this stage will be dealt with in this paper.

Incipient (favorable) tuberculosis is defined as "slight lesion in the form of infiltration limited to the apex or a small portion of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent."

There can be no doubt that some persons may have all the symptoms above enumerated and recover completely without being aware that they had incipient tuberculosis. Post mortem findings show that from 50 per cent to 75 per cent. of men over 45 years of age, who die of other diseases have one or more healed foci of tuberculosis in the lung. The tendency of tubercle is to retrogression and ultimate healing with scar formation. Moreover no chronic disease is as curable as is tuberculosis of the lungs if recognized early before tuberculous complications and secondary infection have set in. We repeat that the importance of the early recognition of lung tuberculosis in the prognosis of the disease cannot be too much emphasized.

Clinicians recognize a pretuberculous stage. That is a condition of lowered vitality or diminished resisting power of the body and consequently an increased susceptibility to infection with the tubercle bacillus. This susceptibility to infection, not necessarily to tuberculosis, may be transmitted from unhealthy parents, or it may be acquired by abuse of the laws of health, or it may follow certain diseases.

The symptoms of early tuberculosis are at best only suggestive. They are the sign posts that show us the way to follow. The onset is often very insidious. So-called neurasthenia is not infrequently

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incipient tuberculosis. Malaise, slight indisposition and a constant tired feeling, a disinclination to carry out what was previously done gladly, may be the first symptoms. A persistently rapid pulse, especially while at rest is suggestive. There may be a few tenths of a degree to a degree or more of fever every afternoon, in women, especially during the menstrual period. The first intimation of illness may even be a condition mistaken for malarial fever, and a large hemorrhage may be the first intimation that the patient has that he is not well. One of the Hippocratic aphorisms is "From the spitting of blood comes a spitting of pus." If an apparently well individual gives a history of recent blood spitting, and no varicose can be found in the nose or mouth, and the gums are healthy, the blood does not come from the stomach but from the lungs, and in almost every case, one might say every case, it means tuberculosis of the lungs.

Cough is the most common symptom of onset. The persistent morning cough is very significant. Out of 154 cases seen at the Clinics for Communicable Lung Diseases in St. Louis since July, 1906, 93 (60.4 per cent) gave a history of cough, as the first symptom. In 23 (15 per cent.) a hemorrhage was the first intimation of trouble. Nineteen (12.3 per cent.) gave a history of general malaise followed by a slight cough which gradually grew worse. The disease followed pleurisy with effusion in 6 cases, and pneumonia in 5 cases. Dry pleurisy, typhoid fever, whooping cough malaria (?), tuberculous glands of the neck, diabetes mellitus, preceded in one case each the tuberculosis. These cases for the most part were well advanced at the time of first visit to the clinic. Unless the first symptom is hæmoptysis, the symptomatology of early tuberculosis is very vague.

Careful objective examination of the patient and intelligent interpretation of the physical signs are all important. We speak of closed and open lesions, the former supposedly surrounded by a fibrous capsule, the latter with no definite boundary in the lung tissue. To examine a patient carefully requires the following: Bare chest; position in a good light; time and patience; careful observation with trained eye, ear and touch, aided by marking with a skin pencil.

Inspection: On quiet inspiration there is often a very slight lagging behind of the affected apex; there may be slight prominence of the clavicle with deepening of the supra-clavicula fossa. Not infrequently one notes sweating from the axillæ during examination. Dilatation of the pupil of the affected side is a sign too inconstant to be of any value. I have looked for it and have not found it in just the cases where it might have helped. Mensuration at this stage is of no special value. Frequently, however, the chest expansion is below normal. Palpation frequently confirms inspection in regard to the lessened excursion at the affected side. The early infiltration in the lung gives as a rule an increased vocal fremitus, and in skilled hands it is a valuable sign. However, it must be remembered that

normally the fremitus at the right apex is greater than the left due to the high origin of the eparterial bronchus. Percussion gives most valuable data. Cabot states that normally the note at right apex is slightly higher pitched than at the left apex. This is doubtful. Possibly when such is found in adults it represents a small healed lesion that ran its course unknown to the patient. The spot where one usually finds the earliest change is at the posterior apex opposite the eighth cervical and first dorsal vertibræ, two to three fingers breadth from the spine. With the patient sitting on a stool, the arms folded and the head slightly bent forward very light percussion will bring out the finest grades of sound, and the plessimeter finger will be able to feel the difference.

A sign long used by the Germans, described particularly by Kroenig, and recently emphasized by Minor, is the percussion of the apical outline. (See *Amer. Jour. Med. Sci.* October, 1906, p. 522). This has given me valuable data, and personally, I believe that the careful marking out with blue pencil of the limits of this resonance is the most important sign obtained by percussion. As a rule the inner line is the one affected, the line being, so to speak, dislocated outward. Roughly this line starts about two cm. external to the sternoclavicular joint and courses over the neck with the concavity outward to the first dorsal vertebra. The outer line with the concavity outward runs from the junction of the outer and middle thirds of the clavicle over the shoulder to the middle of the spine of the scapula. The careful outlining of this resonance by light percussion will save many an error.

Auscultation of the two sides, carefully comparing them, is probably for most of us the measure of the greatest value. The tubercles in the lung cause slight restriction of the lumina of the finer bronchioles interferring with the elasticity of the part, and the irregular expansion of the diseased part causes a prolongation of the inspiratary murmur or produces a series of jerky sounds known as cogwheel inspiration. The expiration is also prolonged producing the bronchovesicular type of respiration. The French call attention to a sign that is briefly noted above; viz: the modification of inspiration. The patient stripped, rests his back against the wall; the observer listens only to inspiration, quickly comparing corresponding points on the two sides. The difference is either a slightly roughened, a lower pitched, or an obscure inspiration on the affected side. The indefinite character of the respiratory murmur is of prime importance. Over the early lesion is heard also increased vocal resonance, bronchophony. If the process has reached the stage where there is slight catarrh of the finer tubes, one may catch an occasional crepitant or subcrepitant rale at the end of deep inspiration or the beginning of expiration. Cough sometimes brings these rales out more clearly.

Special Measures: In this stage it has not been proven that the X-ray is of any value. When the process has advanced far enough to cast a shadow, it can always be made out by careful physical examination.

Tuberculin: In this we have practically a sure means of diagnosis, but it should never be used until, after careful and repeated examinations, a diagnoses cannot be made. Used under these circumstances I believe it is of great value. The rise of temperature that accompanies the reaction is no more important than the changes that take place in the local lesion consisting of catarrhal processes that can be recognized by percussion and auscultation.

Opsonic Index: Wright of London and his pupils claim that a low tuberculo-opsonic index in a suspected case is a valuable addition to our means of diagnosis. Unfortunately the estimation of the index requires special technique and at present is only of value in the hands of trained laboratory specialists, and even in such hands its value is questioned.

In doubtful cases it is sometimes of value to administer potassium iodide for a day or two. This frequently brings out rales where none were formerly present. It must be also remembered that the state of the weather has its influence on what one hears, and also that prolonged percussion of a spot changes the note from an impaired resonance to a clear resonance, the so-called "lung reflex."

Tubercle Bacilli if found make the diagnosis certain, but for the best interests of the patient a diagnosis should be made long before ulceration and expulsion of bacilli has occured. Mueller (*Muenchener Med. Wochenschrift*, 1901, p. 1999) recommends the Preisnitz compress applied at night and a cold spray to the chest the following morning. The moist warmth causes a secretion and the cold causes violent expulsion effects that not infrequently bring up sputum in which bacilli can be found.

Finally, the diagnosis of incipient pulmonary tuberculosis presents many difficulties, but as the favorable prognosis depends so largely on the earliest possible diagnosis we should never salve our consciences, and comfort our patients by telling them they have only catarrh of the lungs or stomach, but we should carefully inquire into the history and examine every patient until we have satisfied ourselves of his true condition. The fact that tuberculosis of the lungs is such a common condition should make us bear in mind that the best attitude we can assume towards the patient is to assume that he is tuberculous until we can prove the contrary.

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DUTY OF THE GENERAL PRACTITIONER IN TUBERCULOSIS.*

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One of the great problems before our profession for urgent solution is how to limit the destructive effects of tuberculosis. The general practitioner who does his full duty must make an aggressive fight for reform from the many foolish habits which lead to practices that are almost criminal when the evil effects upon the general public are considered. The fearful loss of life and capacity for productive work caused by tuberculosis is sufficient excuse for iteration and reiteration of what we, as medical men and would be benefactors, can and ought to do toward limiting or controlling the ravages of this disease. No great reform or material results can be expected in this or any other matter affecting the general public unless it is persistently pushed from the forum or by the press.

I shall refer exclusively to pulmonary tuberculosis on account of its greater prevalence and more serious results and because it is the form most frequently seen and treated by the general practitioner.

Our duty to mankind demands that we make greater efforts to teach our patrons how they may protect themselves from the infection of this dreadful disease. Unless you deny the teaching of statistics it is hard to comprehend our comparative indifference and lack of any concerted action in efforts to control the ravages of this "great white plague." Familiarity with danger breeds contempt alike for its source and results, which possibly explains the lack of vigorous action on the part of the physicians and laymen in attempting to limit the spread of tuberculosis.

While there are innumerable duties confronting the practitioner, I shall only mention the more important, and what I concieve to be those in which we are most negligent. The first and most important duty, I take it, is to fit ourselves to make an early diagnosis. Delay in making a diagnosis and evading the importunities of the patient and friends to know the nature of his ailment, until the laity have recognized and pronounced his disease consumption, is a fatal mistake. The public, generally speaking, have only known of the hopeless cases, those in whom irreparable damage had been done to lung structure. These cases all end in disaster and as a consequence mislead very intelligent persons into the belief that pulmonary tuberculosis is always a fatal disease. I believe that laymen and most physicians have an exaggerated view of the mortality of tuberculosis as compared with the morbidity, which leads too often to a vaccillating

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policy in treatment and frequently deprives a patient of good chances for recovery. If we could but convince the thinking and influential portion of the general public that cancer and tuberculosis are, in a measure, local diseases and curable in the early stages, untold misery and loss of precious lives would result therefrom. We can best bring about a change of feeling and action by early recognizing and naming the disease.

We should make ourselves proficient in physical diagnosis. It is quite common for doctors to send the sputum of a patient for examination and report as to whether it contain tubercle bacilli when the most superficial knowledge of physical signs, easily elicited, would settle the diagnosis beyond doubt. If the general practitioner is to hold his field against farther encroachments of the specialist he must do better work in this line so that he may merit the confidence of his patients. I have no hesitancy in saying to you that, either from ignorance or indifference, an early diagnosis in consumption is rare. It is our duty to study well the symptoms of incipient tuberculosis. These symptoms may give reliable warning ere the change in structure can be detected by physical signs, or while the bacilli may yet be encapsulated and not found in the sputum. We must learn that just as certainly as uterine hemorrhage after the menopause means cancer, in a majority of instances, so does pulmonary hemorrhage mean tuberculosis. We must learn to regard with suspicion a functional stomach trouble with an accelerated pulse and slight elevation of evening temperature; always view with apprehension a loss of weight unexplained by trivial causes. It is our duty to become expert diagnosticians and show confidence in our judgment by naming the disease and acting boldly. An indifferent statement to a patient to the effect that he has a little lung trouble when there is good reason to believe that he has tuberculosis, is unpardonable because it leads to that state of indifference which favors neglect of treatment, including hygienic living, until the patient's chances for cure are greatly lessened; it also increases the danger of infecting other members of his family and friends. Having made our diagnosis the patient should be informed that he has tuberculosis, which can be done without depriving him of the hope of eventual recovery.

The patient's well being, and protection to his friends, demand absolute cleanliness and especially the avoidance of soiling clothing with sputum. As a rule, to which there are few exceptions, each infected person acquired his disease from some other individual through ignorance or indifference upon the part of the latter. This statement does not warrant that phthisio-phobia which has become too common, often leading to action that works hardship or cruelty to the sick without the possibility of adding to the protection of the well. The consumptive who is clean in person and habits, disposing of his sputum as experience has shown can be done with safety to others, is not a

menace to his family and friends and sensible persons will not treat him as such. We must teach our patrons how they may be protected from the danger of association with the tuberculous. We must see to the destruction of the sputum. It is not enough to tell the patient to spit in a cup, we must procure the cup or some other satisfactory device for him and teach him how it is to be used. Your duty is not done by telling him to destroy the sputum. See that he does it. The best protection to the public against the evil effects of promiscuous spitting is an appeal to the selfishness of the individual patient. If he is taught that his disease is infectious and cleanliness is his only protection against autoinfection and consequent loss of all hope of eventual recovery it will have a restraining influence that is not attainable in any other way. Infected persons should never spit on the floor, on a paper nor in an open cuspidor. It is rather a common habit for persons in an advanced stage, after they are confined to the house and to the bed much of the time, to spit on a newspaper spread upon the bed or on the floor by the bedside. I have seen a paper almost covered with sputum and great numbers of houseflies feeding on it while the good housewife was preparing a meal in an adjoining room to which these flies had free access. Food prepared and eaten under such surroundings is a menace to both sick and well.

Having taught the patient and his immediate family that tuberculosis is a communicable disease and the most urgent rules to prevent spreading the infection, we may by proper effort, enlist the more intelligent members of the community in a crusade against the spread of this scourge. It is well to enlist the local ministers and teachers in our efforts to enlighten the populace on the methods that are working such wonders in the few localities where systematized efforts have been made by rational means to check the ravages of tuberculosis. The physician who is well informed as to the cause and prevention of tuberculosis will always get a patient hearing from persons of intelligence and influence in their communities and it is well to talk with them, not only about the best methods to prevent the disease, but also to discuss the effects of climate and heredity, the two most overworked factors and the least understood by the laity and the profession as well. This question of climate is one of the problems for the general practitioner to meet and we ought to give it careful study with a view of doing full justice to our patrons. The belief is quite general with the laity, and is much too common with a large number in our profession, that a change of climate is one of the first considerations in an effort at cure in every case of tuberculosis where it is possible for the patient to adjust his business and finances to such change, and is frequently advised when such adjustment is wholly impracticable. There are sections blessed with a more equable climate than we can boast of in Missouri, where they have more days of sunshine, especially during the winter months, and these are real advantages that render such

locations especially favorable for the consumptive. But there are so many reasons why the average person is debarred from the good effects of an ideal climate that we must confine ourselves to the practicable or home climate. Happily it has been demonstrated beyond any question that tuberculosis can be cured in any climate. An abundance of good pure air anywhere, with a reasonable amount of sunshine, affords a climate that will give us good results provided all other necessaries are to be had as adjuvants.

A great majority in our profession yet attach an undue importance to heredity. As a result the laity have a most unfortunate understanding as to this influence in the causation and prognosis of tuberculosis. Many intelligent persons consider it equivalent to a death warrant to pronounce one infected with tuberculosis who may have lost a parent or other members of his immediate family from this disease. At most, one only inherits a vulnerable constitution and lack of tissue resistance, or that peculiar physical condition or formation which tends to develop a favorable soil for lodgement of the tubercle bacilli.

Treatment is what most concerns the individual patient. Here it is our duty to strenuously combat the idea so prevalent among a certain class of physicians that drugs are of but little value. While there are no specifics for tuberculosis, the skillful use of the preparations of iron, creosote, cod liver oil, guiacol and the hypophosphites with such other remedies as will meet special indications, will not only add to the comfort and hasten the recovery of incipient cases, but sometimes snatches from the grave the well advanced cases and will always prolong the life and usefulness of the individual for varying periods of time. The therapeutic nihilist has no place here, he is an abomination before God and man and should be banished to the land of darkness accompanied by the doctor who ascribes every ache, pain and complication arising during the course of a disease to "catching cold." The most important point in treatment and that to which the general practitioner has subjected himself to criticism is, in my estimation, the matter of open air treatment. Our medical students are taught that fresh air and sunshine are essential in the treatment of all diseases and particularly so in pulmonary troubles and yet we find them treating pneumonia and consumption in hot, unventilated rooms and actually going around the house to come in at the kitchen door to prevent a little fresh air from entering the room for fear the patient might take cold. While making notes for this paper I visited with an able and successful practitioner, a young man with pneumonia. The patient was in the eighth day of his illness and a very sick man. There were in the room with him seven other persons and, by measurement this room contained less than 1800 cubic feet of air space (14x16x8). The doors and windows were all closed, against the advice of the attending physician. The fear that he might take cold was

their excuse for not complying with the doctor's directions as to ventilation. The patient was so distressed in his breathing that I took the responsibility to open an outside door and in three minutes he breathed better and felt better. He was greatly improved the next day and recovered without farther unpleasant symptoms. These people were intelligent, possibly above the average in their immediate locality, and a fair sample of what we must contend with in central Missouri. In their mistaken zeal to protect the sick from what they fancied might be the evil effects of outside air, they were unwittingly killing the idol of their family. We talk glibly about giving the open air treatment and yet deep down in our hearts we fear it. If we were to take a census of the number of patients of the doctors here today who are taking the open air treatment I predict the result would be startling and discouraging in the extreme to those who believe such treatment essential to success. The fact is we haven't the moral courage to give the open air treatment a fair trial. We are afraid that if any complications should arise, knowing the prejudice of the laity and so many physicians against fresh air, and especially that dreadful night air, that we will be blamed and our reputations injured. So long as this cowardice exists on our part, just so long will we fail in our duty to mankind as physicians. Our first duty is to convince ourselves that it is not dangerous to sleep outdoors and that night air is as good as day air; then see that our patients sleep and live outdoors, or at least breathe an outdoor atmosphere. You cannot trust the average patient nor his family to ventilate a room properly; you must do this yourself, or see that it is done. It is our duty to look after the technic of the fresh air treatment just as carefully as we would to the preparation of our instruments and the patient for an abdominal operation. The stake is the same, the life of the patient and our professional reputation.

CONSUMPTION AND CIVILIZATION.*

BY ROBERT O. CROSS, M. D., KANSAS CITY, MO.

The history of pulmonary consumption is contemporaneous with that of medicine and civilization, and, in all probability, has existed as long as man has lived gregariously in established communities. The disease was quite familiar to the earlier physicians, Hippocrates, Galen, Celcus and others, but, owing to their lack of knowledge of pathological anatomy, they left us but an indistinct description, confounding it with other respiratory diseases.

Morton, in 1688, in his Phthisiologia, gave us our modern view of tuberculosis. Koch, in 1882, announced to the medical world his discovery of the true cause of tuberculosis, the tubercle bacillus, thereby proving for all time the unity of this disease and disproving the old notion that it was an affliction of providence; at the same time exploding the modern idea of an inherited and fatal malady.

The effects of consumption on our civilization can, in a measure, be told by history and statistics. Without doubt, one of every three and a half deaths, between the ages of twenty and forty is caused by tuberculosis.

It is during adult life that consumption does its deadly work, that age when the young adult is fired by ambition and love, the age when we all feel the desire to do great and noble things, the age when love for the opposite sex is at its maximum and all entertain a wholesome anticipation of matrimony. The time between twenty and forty is the age when husbands should be strong to work for their families, when wives should have the strength to bear and rear their children, when men and women, generally, should have the capacity, mental and physical, to accomplish the world's work.

Literature and the arts have given many hostages to this dragon of disease, Stevenson, Keats, Ward, Chopin and many others. For the imperishable heritage these geniuses have left civilization, we would think those of their generation would have at least supplied them with the plain necessities of life. No, these who could best appreciate the good and beautiful things—strange irony of fate—received the least, many of them dying in comparative poverty and want, while those who received this gracious heritage appreciate it not, because they cannot eat it or put it to material use.

Computing in dollars and cents the cost of this disease is impossible, because of its magnitude, but for purposes of comparison we can conservatively say that pulmonary consumption has cost more than all the wars of history. Wars are not like our plague, with us always. The cost in dollars and cents is the least of the cost. We can-

*Read before the Fiftieth Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1907.

not compute in money what this scourge has cost the human race in sorrow and in suffering. This can be computed only by the devastated homes and hearts that are left behind by its victims.

The Remedy: Pulmonary tuberculosis is a specific infectious and communicable disease caused solely by the tubercle bacillus gaining entrance to its human host by the air we breathe; the food we eat, or a break in the outer covering of the body.

This germ is of universal prevalence and therefore any factor that enters into the multiplication and implantation of this germ in its final host, increases the number of cases.

What are some of these factors? In the judgment of our most authentic authorities this disease is preventable. It does not require very much authority to convince anyone of ordinary intelligence of the truth of this proposition. Having a specific cause which produces a certain effect, find a way to destroy the cause, and the effects can be represented by the minus sign. Begging the pardon of this learned association for going over the ground they have, perhaps, gone over again and again, I will take up some of your time in enumerating some of the most important destroyable causes of this world-wide plague.

Education of Physicians: Let me quote the words of Robert Koch, who went so far as to declare that the disease would not cease to exist, or to materially decrease in prevalence, until the present generation of medical men had ceased to live. It may be presumptuous in me to say that we will reach the goal that we are striving for only when all medical men know that pulmonary tuberculosis is an infectious, communicable and an entirely preventable disease, and that they be willing to go into the highways and byways preaching the doctrine of prevention.

Public Sanitariums: Public sanitariums, when they are managed for the benefit of the diseased public, and not as political kindergartens and dumping grounds for party workers and favorites, will make for the elimination of this disease to their capacity for the care of the afflicted.

Every man, woman or child improved or cured in these institutions will be a teacher of the doctrine of prevention, and will be a qualified teacher. Every one cared for by these institutions removes a source of infection that endangers the health and life of his friends and neighbors.

Every fair-minded person must admit that the benefits conferred by tuberculosis sanitariums is far above and beyond their cost in dollars and cents. Even if we had a method by which we could compute the relief of human sorrow and suffering, every afflicted one sent home to his joyful friends and relatives is an example of God's own charity.

It is our duty as physicians to work and convince the lawmakers

that it is their duty to establish and maintain a sufficient number of sanitariums to care for every case of consumption, where the patient is not able to care for himself, convincing them that the benefit derived from the producing capacity of each individual will be of great advantage to the state.

Anti-Spitting Law:—We should work for the enactment of laws that will prevent spitting in all public places, such as side-walks, street cars and factories. In the large cities of this country, we should, in congested portions, furnish spittoons, filled at all times, with running water, for this great liberty-loving American people will not swallow sputum, no matter how many laws are passed. All consumptives should be furnished with and taught how to use sanitary spit cups. This may sound to many of you somewhat far-fetched, but I firmly believe that ninety-nine per cent of our consumptives could be taught to see this in the proper light, and would willingly use spit cups for their own protection, at least.

Factory Inspection and Control: In these United States there are thousands of factories and sweat shops that are this day harboring many cases of consumption. These cases are a fearful and direct menace to all the other operatives. There are but few factories in the country controlled in any manner by law. In fact, there are but few, where even instructions are given, which, in any way, would protect the well ones. The abuses to human health, life and happiness present in American manufacturing plants shriek for redress at our hands.

The provisions in nearly all factories for sunlight, fresh air and control of the dust can be placed nearly, if not quite, at zero.

The sweat shop law which has been enacted in some of our states is not enforced. One has but to take a trip to the tenement houses of our great cities, where one in three of the adult population die of consumption, to know the loathsome horror of living without fresh air and sunlight. What laws have we passed to rid pottery and brass workers, stone cutters or cigarmakers of the dust which is the existing cause of so many fatal cases of this disease? Practically, none.

Let us for a moment think of that vast army of men and women endowed with that inalienable right to life of which our publicists talk so glibly. These are our galley slaves, chained in dark, unventilated, filthy dens, working away their lives that we, the great public, may have luxuries which have become necessities; never thinking, never caring that more than four-fifths of this suffering and these deaths are preventable. Who is to blame? Who in the end must answer for these horrors? Not they who are ignorant of the knowledge that means life, but we who have this knowledge and have no time or inclination to care. Who can say how many lives could be saved if we would do our duty, and instead of clap-

ping our hands and holding our breath, when millions upon millions are given for libraries, institutions of learning and empty medals for heroism; we should try to convince our over rich that sanitariums and permanently established free lectures on hygiene by competent teachers would in the end make more for our twentieth century civilization. If we can do this, we can write on this page that we have saved from sacrifice to the god of greed uncounted thousands and proved to all mankind that the wages of life is not death.

Public Schools:—In a great many of our public schools there are teachers suffering from consumption, and I think I can conservatively say that in seventy-five per cent. of all our schools we will find in attendance pupils who are afflicted. Here is another crying need for a law and its enforcement. Every teacher should at the beginning of the school year be examined by a competent physician and those found infected at once be forbidden to teach.

All school children should also be examined once each year and those diseased should be forbidden to again attend school until pronounced well. Why? First, all consumptives confined in our poorly ventilated and cleansed school-houses are dangerous to the health and life of their mates. Second, neither the teacher nor the pupil, if confined by the surroundings of the average school-house, has hardly a single chance of recovery.

All school buildings in cities should be thoroughly cleansed once a month during the school term and in the country once a term. No public meetings, whatsoever, especially in the country, should be held in the school building, for in all public gatherings we shall find consumptives and as certain as they are present, they will deposit their sputum in out of the way places and corners to dry and become germ-laden dust to find a host in the lungs of some delicate child.

In all schools the curriculum should embrace the study of hygiene, so that our future citizens may know the value of right living even though we should have to cut out some higher mathematics and dead languages.

Regulations of Dairies:—It is an admitted fact that bovine tuberculosis can be conveyed to the human host through the milk or meat of the animal. We should have passed a law compelling the inspection of all herds of cattle and when one is found diseased, this animal should be at once destroyed, the state in some measure, at least, assuming a part of the cost.

Public Conveyances:—The owners of all public carriages should be by law compelled to keep these carriages clean and not, as now in some cities, in a state of extreme filthiness. All upholstered carriages should be fumigated at the end of each return journey.

Registration and Reporting:—I have tried to consider above, in a brief way, some of the causes which can be remedied. Tuberculosis is in eighty-five per cent. of all cases a house bred disease, that is, the disease has its origin in or about our homes.

To control, prevent and to finally wipe out this plague from the face of the earth, we must know and have control of each case as soon as diagnosed. Therefore, we should have every case reported and registered by the proper authorities, namely, the boards of health. These boards should have the authority and the finances to carry out all means to prevent the spread from the sick to the healthy individual.

Nearly, if not quite all, new cases of this disease are contracted from some person or animal suffering from the disease. What can be more evident than the proposition: Prevent each case from infecting a healthy man or animal and you have, in its entirety, prevented the disease. It is the consensus of opinion among those who are devoting their time to this problem, that the solution lies not in the cure of individual cases but in the prevention of the spread from the sick to the well, of the infection.

In spite of the mawkish arguments against registration, such as interfering with personal liberty and branding with the brand of an incurable contagious disease, which, by the way, is not true, the time is coming and quickly when all cases will be reported and properly cared for. Along this line we should, in all states, cities, townships, and hamlets, have laws something like the following:

First. Health officers will hereafter register the name, address, sex and age of every person suffering from tuberculosis within their respective jurisdictions, so far as such information can be obtained. This department requires that hereafter all physicians will forward such information to the health officials in the respective jurisdictions in which such cases may occur. The information will be solely for the use of health officers, and in no case will visits be made to such persons by public officials, nor will any public sanitary surveillance of such patients be assumed, unless the patient resides in a tenement-house, boarding-house or hotel, or unless the attending physician requests that an inspection be made of the premises; and in no case where the person resides in a tenement-house, boarding-house or hotel, if the physician requests that no visits be made by inspectors, and is willing himself to deliver circulars of information or furnish such equivalent information as is required to prevent the extension of the disease to others.

Second. When a local health officer obtains knowledge of the existence of cases of pulmonary tuberculosis residing in tenement-houses, boarding-houses or hotels, unless the case has been reported by a physician, and the latter requests that no visits be made, inspectors will visit the premises and family, will leave circulars of information and instruct the person suffering from consumption and the family concerning the measures which should be taken to guard against the spread of the disease; and if it is considered necessary, will make such recommendations for the cleaning or renovating of

the apartment as may be required to render it free from contagion.

Third. In all cases where it comes to the knowledge of a local health officer that premises which have been occupied by consumptives have been vacated by death or removal an inspector will visit the premises and direct the removal of infected articles, such as carpets, rugs or bedding for disinfection, and will make such written recommendations to his immediate superior, concerning the cleaning and renovation of the apartment as may be required. An order embodying these recommendations will then be issued to the owner of the premises and compliance with this order will be enforced for sanitary reasons. No other persons than those there residing at the time will be allowed to occupy such apartments until the order of the health officer has been complied with.

Fourth. The authorities of all public institutions under the jurisdiction of the state departments of health, such as hospitals, dispensaries, asylums, prisons, and homes shall be required to furnish to the department of health of the different states the name and last address of every consumptive coming under observation, within seven days of such time; and all cases that remain in above institutions must be kept in wards or rooms by themselves, and those uncured leaving the institutions must give home address and the State Board of Health must be notified of the same.*

We have confronting us a problem. How we solve this problem will leave an indelible mark upon the civilization of this century as no other civic subject now before us can.

I would ask this body of men and women who are the types of our highest civilization; shall we take it up and fight, and preach our doctrines of prevention throughout this land and reach the only logical result, wiping from the face of this beautiful world of ours that cankering sore that today is causing more sorrow and suffering than any other malign influence? This sore lives and breathes in the strongholds of our civilization—our homes.

If it be not presumption on my part, I would like to offer a suggestion to this section, putting it, perhaps, in the form of a resolution, as follows: that the president of this body appoint a committee of five members to abstract the papers read in this symposium today that have reference to the Prevention of Pulmonary Tuberculosis, edit, publish and circulate the same. This Committee to have full powers in reference to all matters pertaining to the above. Also, that each component county society be requested to appropriate for the use of this committee a certain amount of money to be pro-rated according to the number of members; this money to be collected if possible from the general public. Let me ask again, shall we do something like this, or shall we do as we have done in the past, go into our shells and say:

"I have the knowledge, I have the power, but am I my brother's keeper?"

317 Rialto Bldg.

*New York State Board of Health.

THE NEED OF LOCAL ORGANIZATION IN THE FIGHT AGAINST CONSUMPTION.*

BY FRANK DEVILBISS, M. D., EUGENE, MO.

This is a time when organization is the order of the day; when men interested in a similar line seek uniformity of action and concentration of energy for the accomplishment of their purposes. Whether the end sought be a higher standard in professional efficiency or mechanical trades, whether in commercial pursuits or ordinary labor, experience has proven that those similarly interested must cooperate, that a mutual understanding or agreement must be had, if they would reach the goal of their ambition.

While this is true in the ordinary vocations, in which we are engaged, it applies with infinitely more emphasis in matters which affect the public, in which the rank and file of the race are to change their habits, customs or in any way their manner of living. In these things without organization what's "everybody's business" becomes "nobody's business," each leaving to another the duties that devolve upon us all and avoid the necessary effort to produce results. This applies to us as a profession in our fight against tuberculosis. The frequency and high mortality of this disease together with some prevailing public opinions that are erroneous makes it necessary to act uniformally and efficiently if the best results are to be obtained. And then the victim of tuberculosis is frequently not informed as to the nature of his ailment. Neither are the members of his household always apprised of the fact but are kept in the dark and the patient goes on from bad to worse, a constant menace to the health of those around him through ignorance which is sometimes the result of information withheld by the attending physician. Granting that the patient and his immediate household have been informed as to the nature of the malady, as a rule precautions are not taken to protect those exposed, the rank and file are not informed along this line, and thus from one to another the disease spreads until no one can say he knows he will not be a victim of this terrible malady. The one crying need looking to the betterment of this condition of affairs is organization; effort that has system to it; energy that has concentration. Because of a lack of some one in each community whose duty it is to furnish the necessary information to those affected with or exposed to tuberculosis many sicken and die, whose lives might be saved.

If this "Great White Plague," is to be driven from the race, if even its devastation is to be curtailed, the medical profession must do it. And this cannot be done by its individual members working singly and alone, but by the whole profession acting together along well defined and systematic lines to the end that some knowledge of the cause, prevention and proper management of the disease may be given

to all the people and especially to every member of the medical profession and to all families wherein the disease has found a lodgment. The state, the nation, the whole race looks to the medical profession for relief. We know that it is largely a preventable disease, but this information is of little use unless the race is informed as to how to prevent it and act in accord with their information.

When we consider the fact that most of the victims of tuberculosis are ignorant of the dangers they are constantly in of re-infecting themselves and of infecting others (many of whom are not much concerned about the latter,) we realize that it is an Herculean task to carry the necessary information into the home of every tuberculosis patient and obtain intelligent co-operation, but I might say in passing that the results are well worth the effort, both from an economic and humanitarian standpoint.

In the smaller cities and in the various counties it would, in my judgment, be difficult to find a sufficient number of physicians who are interested in this matter to effect a local organization devoted to this subject alone, but it occurs to me that wherever there is a local medical society there could be and should be selected from its membership a committee consisting of one or more physicians whose duty it is to keep tab on all cases of tuberculosis within the jurisdiction of its local medical society. This committee should affiliate and be in touch with societies in the large cities whose purpose is for the prevention of tuberculosis so that literature bearing upon the subject may be furnished to those directly exposed and to the public in general. Also that the committee may furnish to these societies and through them to the profession in general any information that may come to it as a result of observation, investigation or experience. It should be the duty of every physician to report to this committee every case of tuberculosis coming under his care, together with such correlative facts such as unsanitary surroundings, grade of intelligence, number and age of those exposed, their financial ability and any other information or suggestions that would be beneficial and protective to those associated with the victim. This may not be the best way to accomplish this and I only offer it as a suggestion, but certainly some organized effort is imperative if we are to obtain the best results.

CIVIC RESPONSIBILITIES.*

BY WILLIAM PORTER, M. D., ST. LOUIS.

The panorama of tuberculosis through the last two decades is a series of pictures in which light and shade are curiously commingled. The earlier representations were dark enough and it was not till the true specific cause and the modes of communication were discovered that the spirit of progress touched the portraiture in lighter shade. So rapid are the changes that were it not for the clinical picture, we might think that we were dealing with a new disease. Dr. Darlington, Health Commissioner of New York says: "Considered either in the light of political economy or of humanity, the question of tuberculosis is one of the most important questions of the day. Of the 350 who have died this day in the United States from consumption, many is the home that is left desolate, and bitter is the grief and the sorrow that has come from a death from a disease which is largely unnecessary, which may be avoided, and which through education might be stamped from the face of the earth. And what has occurred to-day, occurred yesterday, the day before, each day last week, throughout the year, and will occur every day throughout the coming year. Relentless seems this foe to humanity."

Let me give you a few figures showing the extent of this scourge. In this country at present rates, one-tenth of those now living will die from consumption. This means 7,000,000 in the United States, 500,000 in Illinois, 300,000 in Missouri and 70,000 in St. Louis, but as the urban rate is one-seventh, 100,000 is nearer the loss in our own city. In St. Louis there are probably 5,000 active cases of consumption in the different stages: in Chicago, 6,000; in Boston, 5,000, and last year in New York City, possibly because of well inforced registration laws, 28,831 cases were reported. It is estimated that there are 30,000 cases of consumption in Illinois, 20,000 in Missouri and over 10,000 in Iowa. In Illinois, with a population of 5,000,000, last year 7,000 died from consumption. Iowa lost 2,000 and our death list from this disease was over 4,000. In the United States the deaths from consumption are over 110,000 annually, or one every five minutes.

If 350 die every day from tuberculosis in the United States the number in Missouri is about 20. Multiply the 300,000 now living in Missouri, who at present rates will be victims of this disease, by two and one-half, the average length of the disease and we have the unthinkable period of 750,000 years of suffering in our own State in one generation—not to speak of the sympathy and sacrifice of those devoted by the strongest ties. These figures are as accurate as census reports and estimates based on comparative population can make them.

The economic loss is equally startling. Last year in Illinois the estimate from official statistics was $36,551,000—not including the

*Read before the Fiftieth Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1907.

value of each of the 7.000 lives lost by consumption during the year. In Iowa, the annual loss is estimated to be over $10,443,000; in Missouri $24.000,000; In the United States the annual loss is estimated between $350,000,000 and $400.000,000; in Germany about 86,000,000 marks annually. I speak of it in the light of political economy says Darlington because of the importance of the life of the wage earner to the State. We call a country rich according to the amount of money in the hands of its people, and when we consider that from this one cause alone the loss of wages while ill, the expense of caring for the sick, with the extra food, the nursing, the hospital and the physician, clinics, etc., and the cost of the burial of the dead, the figures are appalling. Between the ages of 15 and 45—the age when most money is earned—the life of most wage earners—over thirty per cent. of the deaths are due to this dread disease; and while the greater portion of these die between the ages of 25 and 35 a very large proportion die between the ages of 15 and 20. If we add to the above loss of wages, sickness and death, the loss to the State from an educational standpoint, children educated at the expense of the State who have spent eight years in the public school in order to graduate, at an annual expense of at least $50 per head, and then who die soon after they leave school, some conception may be gained of the enormous economic loss to the State.

But let us not consider it in the light of political economy alone, but from the standpoint of humanity. Think of the untold suffering and distress that have come through premature death in this way! Not only suffering through grief, for many is the wage earner who has been hurried out of the world leaving a helpless family behind him which must also be cared for by friends or by the public.

But in these later days, light has comt out of darkness. With the knowledge of the specific germ has come the understanding of its control and the cure and prevention of the disease. The curability of tuberculosis in the early stages is no longer questioned by the intelligent physician and prevention is becoming a verity. Limitation has been accomplished in New York and Philadelphia of 40 per cent. in ten years. Pasteur said "It is within the power of man to stamp out all parisitic diseases from the face of the earth." Williams of London found 46 per cent. cured out of 1,000 private cases in all stages. Consumption mortality in the English Barracks has been reduced from 6.8 per 1000 to 2.5 per 1000. Flick, one of the greatest living authorities on tuberculosis says "It is one of the most curable of all diseases." From some of the European Sanatoria comes the cheerful report last year of over 80 per cent. of early cases cured and in this country, Rutland, situated in a climate heretofore considered undesirable for tubercular cases, reaches the high mark of 84 per cent. of cases cured and arrested. In Germany the decrease in the number of deaths from tuberculosis during the last ten years has been fifty per

cent. and in England about the same. In New York the death rate has fallen from 4.2 per 1000 to 2.9, a reduction of more than 40 per cent. in Philadelphia the decrease in ten years was 43 per cent.

Upon the basis of the New York and Philadelphia results, forty per cent. of the estimated 100,000 victims among those now living would be 40,000 lives saved in St. Louis alone. Forty per cent. saved of the five thousand cases now existing in St. Louis would be 2,000 less to suffer and endanger others—2,000 more breadwinners won back. It means a saving of $9,000,000 annually to Missouri and of 50,000 lives and $150,000,000 each year to the United States. Can Missouri, or we as citizens of Missouri, make any better investment of our time and money than the accomplishment of this object? I repeat the word "we" for somehow I have faith that in this audience are some upon whom the sense of responsibility in this matter will lead to definite, active effort for the safety and preservation of ourselves and those dear to us which is the first law of nature.

How shall the campaign against tuberculosis be successfully conducted? Mainly by education. The responsibility of the State and the citizen will only be recognized when the citizens of the State are enlightened as to the cause and methods of prevention. Our Legislators can only help us so far as the people know, who elect them.

What shall be the agents in this education? Mainly two. 1st, Local and State organizations. 2nd, Public and private sanatoria and dispensaries. I shall not speak of the first at length, for you all know it is purposed to organize a general association for the State upon the adjournment of this session and its needs and opportunities will then be set forth. May I here, however, claim your heartiest cooperation, for I have ever found that the members of the Missouri State Medical Association are ready to aid in every good work within their province, and there is none better than this. Organization means not only local interest and enlightenment as has been so ably set forth by the preceding speaker, but it meant a demand for better laws touching sanitation, inspection and registration, and the further support of the great State Sanatorium for Tuberculosis soon to be opened. May it have your help. It surely needs it.'

For the prevention of tuberculosis the hospital undoubtedly is the post potent factor at our command. It helps people who are most likely to spread the disease, and it helps them at a time when their power for evil is greatest. It protects the rest of the family, by removing the source of contagion and by relieving it of a burden which has a powerful predisposing influence—a prolific cause of the spread of the disease among the poor. Hospitals are preventive in still another way. They serve as schools and propaganda in the crusade against tuberculosis. The patients who come in during periods of exacerbation often go out restored to a fair condition of health with valuable knowledge about the disease which enables them not only to preserve

the health which they have regained, but to protect themselves and others against the contagion which they still give off. They, moreover impart this knowledge to others, and thus become valuable agents in the educational movement. Even patients who come into the hospital to die, during their stay serve as object lessons to relatives and friends, and attract attention to the new ideas about the disease. The hospital also is a potent factor for the increase of scientific knowledge about tuberculosis. By this aid our knowledge of tuberculosis has been greatly augmented in the last few years, and the disease has been brought within the domain of curable diseases. We have much yet to learn, however, and for the acquisition of more knowledge we must have well equipped hospitals with modern laboratories attached.

Massachusetts erected a state sanitarium at Rutland in 1895; New York has a half million institution under way. New Jersey has appropriated $300.000. Illinois is far along with her plan and other states are discussing the subject. Iowa has $50,000 for like purpose. Private institutions are found in almost every large city and camp, and settlements are being everywhere located from the Adirondcaks to the Mexican border, for it is now a proven fact that there is no special climate for the cure of consumption, but that it can be cured in any climate. Walsh of the John Hopkins Hospital says: Germany with only two-thirds our population, not one-tenth our area, and not one-twentieth our wealth, has more sanatoria, and is spending three times the money on them. The tuberculosis dispensaries in France or Germany are the most important elements in the crusade against tuberculosis, and we are woefully lacking in them. St. Louis should have four or five and it has but one. But the problem is being worked out.

Much of the foundation work, the hardest and most discouraging of all, has been done. In four years the fight against tuberculosis in St. Louis has been well organized and we do not fear the results. The work in the city will compare favorably with that of any city to our knowledge in the same time. In 1903 the main building of Mount St. Rose Sanatorium was completed, and since that time over 1,200 cases of tuberculosis have been cared for. Most of these were in the advanced stage of the disease, but there was the satisfaction that not only were these helped so far as possible, but that with each a focus of infection was removed from the home. It is now necessary to add a new wing which will have all the modern features of the best plans and will bring the total investment to about $250,000. The Sanatorium is conducted by the Sister of St. Mary, with a medical director a resident physician and a full corps of consultants. Special appointments have been made to advance the bacteriological and pathological work.

Three years ago the "St. Louis Society for the Prevention of Tuberculosis" was started. Its aim was to educate the people to the necessity for a popular recognition of the dangers of consumption and

the best way to meet them. On its publicity committee are the eidtors of all the daily papers. Its lecture committee includes men who go when called to speak to clubs, societies and unions. It has a committee on inspection, the members of which are obligated to make reports on the sanitary conditions of factories, street cars, office buildings, etc. The Society has distributed over half a million booklets and pamphlets among the children of the public and parish schools in which work it has been greatly aided by His Grace the Archbishop of St. Louis and by the Superintendent of Schools."

More recently the "Society for the Relief of Consumptives" was organized and these two societies are now united. So far the "Relief Society" has conducted exhibitions of tents, model sick rooms, etc., in a large room given for the purpose, on one of our prominent streets, and these have been visited by large numbers of physicians, nurses and others interested. One of these tents is placed in the beautiful grounds of Mount St. Rose, where, with its occupants (two men selected from wards), it is an object lesson to the visitors.

A monthly journal, "The Relief," with a circulation of 10,000 is ably edited by Mr. Newton, secretary of the "Relief Society." Its aim is to carry needed information where most needed. In this the public press also gives every assistance.

Under the auspices of this society a head nurse with assistants is constantly employed finding cases of consumption among the poor, teaching them hygiene, ventilation, etc., instructing them in the care of the sputum, reporting each week to the medical director. This work is exceedingly valuable and is receiving the best encouragment. From one source comes an order for all the concentrated lye needed for distribution as a cleansing agent or as a germicide. From another money for a special case, from a third an order for hospital care for a man and his wife.

The Board of Health is doing all possible to aid the work. It has a special hospital for contagious diseases, mainly consumptives, and will soon provide for these latter a large commodious building on one of the most elevated parts of the city suburbs. A special clinic under the care of Dr. L. M. Warfield, assistant dispensary physician has been established and is in full force.

A special chair in one of the Universities is devoted to the teaching of the diagnosis and care of tuberculosis, one of the features being the demonstration of the value and methods of local organization.

Two important ordinances are being gradually enforced and are meeting with general support rather than with opposition. One is the ordinance against promiscuous spitting in cars, on pavements and in public places. The other is the registration act, making it compulsory that physicians report cases of tuberculosis to the Health Department and calling for disinfection, either by the house owners and certified to by the physician, or by the Health Department.

In the state much has been done. The State Medical Society makes the discussion of tuberculosis the special order for the second afternoon under direction of the committee on tuberculosis. Two years ago a resolution in this association was adopted, asking that each local society appoint a committee on tuberculosis and following that and the urgent letters recently sent out we are now ready to organize a State Association in the great cause.

Two years ago the legislature gave $50,000 with which to start a sanatorium for incipent tuberculosis. A beautiful site was donated at Mt. Vernon in the Ozark mountains and a pavilion has been completed, ready for occupancy. The commissioners will turn the property over to the Board of Managers, just appointed. A special committee has reported in favor of $125,000 for additional buildings. While part of this is not immediately available, there is enough to demonstrate its value to the state. It is to be regretted that the appropriation for mantainance is so inadequate for a thorough demonstration. The legislature gave $50,000 two years ago, and this year $125,000 for buildings. Only $65,000 of this latter sum can be used this year, which gives us $115,000 for building and equipment and $10,000 was allowed this year for mantainance. The citizens of Mt. Vernon generously gave some $6,000 and a beautiful site with water and electric light. Ten thousand dollars is a small sum for maintainance for two years salaries and an estimated deficiency weekly for each patient of $3. So you will bear with the Board of Managers and help us in 1909.

And now with a recognition of the civic needs, what is your duty and mine as citizens of this great commonwealth. Twenty-nine states have already enlisted in the warfare, headed by the grand old Keystone State twenty years ago.

The lives of the citizens are a countries most precious possession. The citizen entrusts many of his natural rights, such as protection of life and property, to the state. You not only so entrust your life, health and happiness to the state, but you are the state and your guardianship is a sacred trust.

What is needed to win this greatest of all victories for the state, for the individual, for the home and all that home means? We need men and women. Not so much do we need money or influence, or great learning, valuable as all these are. We need consecrated, earnest lives. Not those who will encourage with a word or a benediction, but those who recognize the peril at their door, who are their brother's keeper and who feel that they are links in that great chain of social and communistic well being which makes every man a hostage for the man next to him.

If you approve the work that has been outlined, say so my brother, and give us your hand. We need that hand.

[The section then adjourned to organize the State Association for the Relief and Control of Tuberculosis in Missouri.]

DISCUSSION.

Dr. H. B. Cole, Sedalia: This is the most sensible and the best symposium to which I have ever had the pleasure of listening. The Society is certainly indebted to the committee for these excellent papers. They are timely and have been well written. I hope that we as a body will make some effort to carry out all that has been urged in these papers, especially with reference to the suggestion of Dr. Cross that some effort be made to have these papers printed and sent out among the doctors. There is one thing not mentioned in the papers of which I wish to speak. I live in a railroad town among a changing class of people and I have made it a custom to advise my patrons never to move into a house until it has been disinfected. Every family should be instructed that it is not wise to move into a house until it has been disinfected.

Dr. A. H. Vandivert, Bethany: Dr. Allen referred to the dissemination of tuberculosis through the atmosphere alone. It is important for us to recognize that it may be disseminated through the food, especially among children. The question of tuberculosis in children has not received the attention in these papers that it merits, for it is recognized that tuberculosis among children is more common than was formerly believed and it is probably more common than among adults. In reference to hygiene, nothing was said of the germs in the pus of abscesses in tuberculous children. I especially endorse what Dr. Allee has said in regard to the mistake of calling incipient tuberculosis a "cold." It is a very grave mistake that many of the profession are guilty of. I also endorse the suggestion of Dr. Cross in regard to the dissemination of literature.

Dr. J. B. Norman, California: At this time the dissemination of knowledge concerning this disease is very important especially because we are not outspoken in our diagnosis in the incipiency of the disease. I have frequently found in my experience that if I diagnose tuberculosis in the incipient stage and tell the family of the fact, they regard the disease as incurable and will immediately go to another physician who will not tell them that it is tuberculosis. But he treats the patient for tuberculosis, the patient gets well and then the family says I made a mistake, that it was only a bad cold. For this reason the people should be educated on this subject and I endorse everything Dr. Allee has said.

Dr. O. H. Brown, St. Louis: Dr. Warfield has told us that the use of the opsonic index is still in its early stage; this is true, yet it has demonstrated certain facts from which we can draw some conclusions. If a person has an infection in the wrist joint and keeps it quiet the condition will likely remain localized; but if he uses it, fever will develop, the inflammation is increased, the bacterial toxines are forced by the exercise into the body fluid and there is a general toxemia as a result. If instead of an infection in the wrist, it is a case where there are tubercles in the lungs, exercise is still more likely to be followed by the absorption of toxines and we have the fever, high pulse and all those symptoms with which we are familiar; and upon this depends the degree of immunity. The precipitations in the blood which take care of the toxines, and the agglutins, and the opsonins which act on the bacteria are factors of immunity. Wright has shown that phagocytosis depends upon certain substances in the blood which unite with the bacteria, and which renders the bacteria susceptible to ingestion by the leucocytes. The injection of toxines into the body or the absorption of them from a lesion in the body produces a fall in the power of immunity,—a lowered resistance to infection,—followed by an increased immunity,—a rise in the individual's resistance,—to bacteria. Our lesson is this: We wish to prevent the absorption of an excess of toxines from the lungs; and the best thing we can do to prevent

this absorption is to keep the individual as quiet as possible. The treatment then, when a tubercular patient comes to you with the symptoms of toxemia, is to put him at absolute rest. You would not think of allowing a pneumonia or typhoid patient to stay up, and you must treat this case exactly as you would any other case of acute toxemia. Then when his symptoms disappear, allow him to get up very slowly and if you see that he is getting worse put him to bed again and let him rest a few days more. The aim is to produce as high a grade of immunity at all times as possible, and at the same time to have a minimum of toxemia.

Dr. W. E. McKinley, Denver: There is something else to be done in the way of educating the public. In the district of which I am councillor I have urged that some member write a paper on the subject say quarterly, this paper to be published in the weekly press, it being indicated that this paper comes from the medical society. Then, perhaps once a year, invite the public to hear a program on this subject. For the third week in June we have arranged a program including the ministers, the press, and the general public is invited to come out to hear these papers that they may become better educated along the line of how to disinfect the sputum and protect those not infected, and how to care for those who are infected.

Dr. E. W. Shauffler, Kansas City: It seems to me that the object of this symposium was not so much to open the subject of what we shall do for the treatment of our tubercular patients as that of what we shall do for the tubercular people of the whole state, that through an organization the entire suffering mass in the state of Missouri may be relieved. Therefore I would suggest that we adjourn this session and hasten to the organization of an antituberculosis society and set the ball to rolling.

LOCAL ANESTHESIA.

BY ROBERT D. HAIRE, M. D., CLINTON, MO.

One of the most noteworthy advances in surgery during the past few years, has been the employment of local anesthesia in preference to general anesthesia in the more severe cases of minor surgery.

It is universally conceded that general anesthesia is the bugbear of modern surgery, notwithstanding the fact that refinement in methods of administration, and modification of the agents employed, have done much to lessen the discomforts and danger attending its use.

The popular mind is prejudiced against the use of chloroform and ether, and the dread thereof while often exaggerated, is not without some foundation, consequently, many operations are postponed indefinitely with great detriment to the patients because of it.

Various local anesthetics, such as cocain, eucain, ethyl chloride, etc., are in use, each serving a purpose and yet all having limitations.

It is not my intention to enter into a scientific discussion of the relative merits of the various anesthetics, but rather to present a few practical suggestions for the general country practitioner of which class I have long been a member.

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*Read before the Fiftieth Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1907.

One of the best anesthetics, and the one in particular of which I wish to speak, is that advocated by Dr. S. G. Gant, of New York.

Briefly stated, the principle of the method is pressure analgesia, and its mode of application, distention of the area to be operated upon with sterile water, or a weak solution of some analgesic drug, according to the preference of the operator and the indications of the case.

For small areas, I use an ordinary hypodermic syringe filled with sterilized water about the temperature of the body, since that is more agreeable to the patient than cold water. For an incision through the integument only, the water is injected between the layers of the skin a few drops at a time until the tissues are distended and become anemic and glassy white in appearance. If the subcutaneous tissues are to be anesthetised, the needle is reinserted deeper and deeper until satisfactory anesthesia is produced.

This method has the advantage over drug anesthetics in that bleeding during the operation is very slight, because of local anemia due to pressure, and the post hemorrhage is correspondingly slight because the vessels seldom relax, as in the use of cocain, etc.

When it is deemed advisable to use an analgesic drug, it will be found that a very low per cent. will be equally effective and eliminate the danger from toxemia. Anesthetization with sterile water is absolutely void of toxic effects.

Recently I have used this method in a number of cases as follows:

Mrs. J., age 45. Fatty tumor, right temple, about size of hen's egg. Skin on line of incision completely anesthetized with sterile water. No pain on removing tumor except at the last where adhesions were quite pronounced.

Mrs. H., colored, age 27. Fibroid left breast, size of a hickory nut; ½ of 1 per cent. eucaine used; no pain whatever during entire operation.

Mrs. L., age 47. Ingrowing toe nail; rubber band applied around root of toe and 4 per cent. cocaine injected. Cotting's operation was performed and in addition one-half of the offending nail was removed. No pain whatever except that experienced by the first insertion of the hypodermic needle.

Miss L., age 19. Papilloma on the tip of nose about the size of a navy bean. Sterile water anesthesia, no pain whatever on removal.

Mr. F., age 42. External thrombotic hemorrhoid, size of a filbert and very painful. ½ of 1 per cent. eucaine employed, tumor incised and curretted without pain.

Mr. L., age 32. Deep perineal abscess. In this case I used nearly one-half ounce sterile water; abscess evacuated and cavity packed with iodoform gauze without pain.

Mrs. M., aged 40. Mammary abscess, two drachms sterile water used in this case, abscess opened without pain.

While numerous other cases might be reported, the foregoing amply illustrate the efficiency of sterile water as a means of anesthesia, and I advocate its use (1) on account of it being absolutely harmless, producing no toxic effect whatever; (2) in cases where ordinarily no anesthesia would be used, it spares the patient pain and gives the operator more time for his work; (3) because of the small loss of blood both during and after the operation; (4) correspondingly small post-operative pain.

DISCUSSION.

Dr. M. G. Seelig, St. Louis: One phase of the local anaesthesia question only recently mentioned in surgical literature, emphasizes the question of local anesthesia from a point of view other than the purely clinical one. As you all doubtless know, from the clinical point of view, the great difficulty with the use of cocaine to produce local anesthesia has been very much the same as the difficulty encountered in the use of iodoform. Possibly there has been no greater effort in surgery in the last ten years than the attempts to secure a substitute for iodoform, in order to overcome the stench and the toxicity of this drug. The same state of affairs has existed with cocaine. It came out as the first guaranteed local anesthetic. Its toxicity and the fact that it can not be sterilized are the two drawbacks. Eucain, alypin, novocain, stovain and several others have been offered as substitutes, but most of those men who use local anesthetics have in almost all cases gravitated back to cocaine. The object of my discussion is not, however, to deal with the clinical aspect of cocaine local anesthesia, but rather to point out the service that cocaine has been in furthering surgical investigative work. It was for a long time a demonstrated fact that none of the intra-abdominal organs possessed sensory nerves. It has been an equally well demonstrated fact, that the great bugbear of abdominal disease has been the element of pain; and to those who have given any thought to this subject, it is rather paradoxical that that region of the body should be the source of the greatest pain, in which there are no sensory nerves. Of course, the abdominal organs are well supplied with nerve-branches and twigs from the sympathetic system.

The surgeon, Lenander, of Upsala, was able by the use of cocaine to demonstrate to his own satisfaction that the parietal peritoneum possessed sensory nerves, but that the abdominal viscera were devoid of these nerve filaments, and that, in order to account for the element of pain in abdominal disease, we must, in most cases, conclude that the parietal peritoneum was in some way involved. Lenander, for example, showed that although the appendix was devoid of sensory nerves, pain was nevertheless a symptom of appendicitis, owing to the fact that the diseased organ was usually accompanied by inflammation of the neighboring parietal peritoneum. It has been supposed by others that the pain of appendicitis might be due to a retroperitoneal lymphangitis, or possibly to the intumescent lymph nodes situated posterior to the base of the appendix and cecum. But the opinion has generally prevailed that the element of pain in abdominal disease was due to the involvement of the parietal peritoneum.

Lenander was able to reach his conclusions through the use of cocaine. He did it by performing abdominal operations under cocaine, eliciting no sense of pain from the patient on handling the viscera, and therefore concluding that those organs were not provided with sensory nerves. On the other hand, the handling of the parietal peritoneum invariably called forth a sense of pain.

This view stood uncontested, and what follows represents one of the most interesting phases of modern research work. Within the last eight or nine

months this question has been reopened by our great physiologist, Meltzer, of New York, who found that the reason the patients and animals experimented on had no pain after the injection of cocaine, was that the absorption of cocaine into the organism tended to abolish the pain sense, which, contrary to the views of Lenander, normally resides in all the abdominal viscera, as well as in the parietal peritoneum. He proved it by opening the abdomen of a dog under ether, then stopping the ether and allowing the dog to recover completely from the anesthetic. The animal was then submitted to irritation of the abdominal organs, and in every instance gave evidence of very acute pain. This same animal was then given a hypodermic injection of cocaine, and in a short while it was possible to manipulate the viscera freely without calling forth any evidences of pain. This report of Meltzer was submitted as a preliminary communiction. I do not believe he wishes it to stand as a confirmed fact; but whether it be a confirmed fact or not, it certainly is an opinion pregnant with interest and importance from the point of view of the general effect of a drug whose main therapeutic action is usually regarded as purely local in character.

Dr. W. H. Coffey, Kansas City: I merely wanted to ask the essayist if in his experiments in local anesthesia, in place of using warm water, he ever used sterilized water put on ice and made ice cold; if so with what results?

Dr. W. J. McGill, St. Joseph: I have had some little experience in the use of local anesthesia, and in my work along rectal lines I do most of it under local anesthesia. I use a little eucaine (1-10 of one per cent.), and it seems to me that my patients have less pain than when I use water alone. I have found it necessary in every case to continually reassure my patients that there will not be much, if any, pain. One has to use a little suggestion along with the sterile water anesthesia, and especially must keep the patient's attention distracted. I have advised and advocated the use of local anesthesia in rectal diseases, principally for the reason that the patient is not confined to the bed for a long time, and many of them will consent to have the work done at a very much earlier period than if you have to subject them to a general anesthetic. All else being equal, and the patient giving his consent, where the operation is to be severe I prefer the general anesthetic, but for the ordinary case of hemorrhoids, either internal or external, you can do very good work under local anesthesia, and the patient will probably be much better pleased.

Dr. J. D. Griffith, Kansas City: I have had a little experience in local anesthesia. I have operated for varicocele with ¼ of 1 per cent. cocaine in normal salt water, cold. The doctor just now struck the key-note on this water business, which I have used also, in the same line, and that is, the psychic argument. It has a great deal to do with it. If you can keep a man constantly employed entertaining your patient, you can do a great deal more with a local anesthetic than you can without it. Again, one of the gentlemen in the discussion, spoke of the parietal peritoneum being the point of pain, where the sensory nerves were distributed in the abdomen: this I have had demonstrated in a case of abdominal section, where the lady would not take any anesthetic; I used a solution of water along the line of the incision. She wanted to watch the operation herself. She never complained of a particle of pain during the entire handling of the abdominal organs, and the only time she complained of pain was when I handled, or came in contact with the parietal peritoneum. I have never had but the one case in which I had no anesthetic in the abdomen at all. This was a tumor which I removed.

Dr. C. Lester Hall, Kansas City: This idea that cocaine acts as a general anesthetic is a new one to me and a very beautiful one. I hope it can be demonstrated as true; but up to this time, we all know that when we are

operating under the administration of cocaine or with the infiltration of water, when we go beyond the anesthetized region, we hear a remonstrance from the patient. It certainly hurts when you get beyond the area of the cocaine. Therefore, it remains to be proven that cocaine is a general anesthetic.

Dr. John Green, Jr., St. Louis: Surgeons, particularly ophthalmic surgeons, owe a debt of gratitude to Dr. Koller who first introduced cocaine. Dr. Koller, in the early eighties, demonstrated that cocaine instilled in the conjunctival sac proved an efficient anesthetic so that many operations could be performed on the eye without the slightest pain being felt. The disadvantages of cocaine are principally its toxicity and the fact that it can not be sterilized by boiling; and hence various substitutes have been advanced, many of which as far as ophthalmic work is concerned, are quite as efficient as cocaine. I wish particularly to call attention to eucain, alypin and stovain. The field for local anesthesia in ophthalmic work has been growing wider and wider, and today there are few operations on the eye that can not be successfully performed under local anesthesia. Even enucleation of the eye has been successfully performed, in numerous instances, under local anesthesia. One local anesthetic that has not been mentioned is "acoin," which is used as an adjunct to subconjunctival injection.

ACUTE BRONCHITIS DURING THE NURSING PERIOD.*

BY J. J. RICE, M. D., KEARNEY, MO.

This affection is one of the most important diseases with which the physician has to deal. One of the most difficult problems in pediatrics is for the physician to forecast what a day will bring forth during the duration of infantile acute bronchitis. Today, everything is hopeful; tomorrow, the patient may be dead. It is certainly one of most delusive of diseases. Its irregular temperature curves, its temporary improvements, its hopeful countenance, its wasting body, its cry of distress, its danger signals, make a picture so familiar to the experienced physician that a glance is all he needs to suggest the uncertainty of the future. When called to administer to a little sufferer presenting such a group of symptoms, either present or in anticipation, the question, what must be done, becomes one of great responsibility.

If we are not familiar with the destructive processes that may be going on, our treatment resolves itself into nothing better than a guess, having no rational lines to guide us, or any definite course of management.

To treat a case of acute capillary bronchitis in childhood, the physician's knowledge must have for its foundation, anatomy, physiology, pathology and applied therapeutics. Being thus equipped gives him confidence in himself, which, in turn, inspires confidence in those with whom he comes in contact. More than this, he is enabled to define a course of treatment by which he may meet the various pathological stages that follow each other in the history of the case.

There is nowhere in the practice of medicine that the well-equipped and scientific physician shows the contrast of medical in-

*Read before the Clay County Medical Society, May 27, 1907.

efficiency so great as in dealing with the disease under discussion. The physician, in treating these cases, must be resourceful; quickly detecting the injurious effects, possibly, of squills, or the failure of the digestive tract to digest and assimilate the foods given the patient. Prognosis should always be guarded, because of several dangers, to be referred to later, that seem at present to be uncontrollable.

I will endeavor to give, as briefly as possible, the pathogenesis of infantile bronchitis,which is used interchangeably with capillary bronchitis; either of which may result in broncho pneumonia. It is safe to say that the law of irritation, decay and destruction is as fixed as the law that governs repair, growth and construction. Therefore, of the different battle grounds scattered throughout our material body, where health and disease have struggled for supremacy, there is none where the physician is so impotent to render immediate assistance as in the territory of the smaller bronchial tubes of the infant.

To refresh our memories in regard to the landmarks found in this locality, let us suppose we are looking at a spiral tube, which when straightened measures eight inches; a lumen, 1 10th in. at the large end; the large end joined to a larger tube with a larger canal, and the small end extended into the alveolus or air cell. The lumen of the tube, or so to speak, its lining is a mucous membrane which, histologically, has three layers. This membrane furnishes all the secretion thrown into the tube, and all the material furnished the mucous glands for this output comes from a dense network of capillaries supplied by the pulmonary artery.

This tube loses its cartilagenous support when the size is reduced to one-thirtieth of an inch. When the venous circulation is disturbed, causin gan influx of blood to this point greater than normal, the expected will certainly occur; that is, the increased pressure on these vessels will tend to close the smaller end of the tube producing occlusion of the tube to the air cell, or atelectasis.

Each cardiac contraction forces the same amount of blood through the pulmonic capillaries, as is thrown through the systemic capillaries, although the area is much greater; hence, the great danger of atelectasis by blood pressure forcing the capillary bronchi, whose mucous membranes are now in a state of inflammation, making the sides of the lumen easy to stick together. If we had a remedy by which we could prevent the blood pressure referred to above, we would have the problem solved.

Having outlined the pathology and resultant dangers in acute capillary bronchitis in the infant, it can be more readily seen why this citadel is more vulnerable to the attacks of the family of bacteria than other parts of the human organism, and why the great life-giving principle, oxygen, is cut off from coming in contact with the blood, which allows an excess of carbon to steadily increase in the blood, destroying its vital force.

If the position taken is correct, the continuance of the fever, as well as its irregular temperature curves, can be accounted for on the theory that the tendency of the infecting agent is to attack new territory, plus the increase of the toxine of the germs and the poisonous effects of the increase of carbonaceous material in the blood, because oxygen cannot reach it to burn it off.

It goes without saying that, in all our inflammatory diseases, a rise of temperature indicates an increase of inflammation, hence, the varying of the temperature curve. We also know that if the inflammation extends into new territory the primary inflammatory process gets better and the patient may brighten up. I venture the opinion that the rapid fluctionary changes in their symptomatology, is the result of the sticking together and opening up at different times of the minute capillaries. This, when opened up, increases the amount of oxygen, burns up the carbon and lessens the respiration. When they are stuck together, the opposite condition exists.

It logically follows that the treatment can never be specific, nor the prognosis certain, because of the large probability of atelectasis occurring at any moment without warning. The latter stages of the disease, or during the degenerative changes, pyemia, to a greater or less extent, may occur. The disease never terminates by resolution; it always terminates by fatty degeneration or suppuration.

I deduce from the foregoing the following rules or principles for treatment:

1st. A well-ventilated room; its temperature kept as close to 70° as can be done.

2nd. All articles not absolutely necessary for the convenience and comfort of the patient should be removed.

3rd. Put the patient in a bed sufficiently large so that its position can be changed from side to side, which will allow airing and cooling of the bed; the effect of which would be to lessen the patient's fever.

4th. Place the bed in the middle of the room and from the top of the bed posts (which should be two feet higher than the level of the patient) suspend sheets around the bed, so that a spray of tincture of benzoin can be thrown against its surface as is needed.

5th. The patient should have on no clothing except a long gown of woolen material or soft cotton.

6th. All the water the patient can drink, none externally.

7th. Local applications to the chest.

8th. Nourishment every four hours.

9th. Medicinal remedies to meet indications, preferably, the tinctures largely diluted in water.

10th. Exclude from the room all oxygen consuming lights at night, as well as unnecessary visitors at all times.

True, it is possible for a child to recover from acute capillary

bronchitis and violate the above rules, but a persistent adherence to them will give good results, both in comfort to the child and respect to the physician.

Now gentlemen, let us, like New Testament christians, be able to give a reason for the hope within us. We, now, approach the bedside of a little, afflicted, innocent baby, whose respiration has reached 70, temperature 104, pulse 150 to the minutes, short, quick cough every few moments. Auscultation reveals a case of infantile bronchitis.

In the matter of local applications to the chest, some are good, others positively harmful. Those that dilate the superficial capillaries and cause fluctuary changes in the arterial current to some extent, at least lessens pulmonary engorgement. To this class belong the counter-irritants, but not necessarily an irritant to the skin. A jacket of woolen goods, or cotton, will dilate the blood vessels. However, I prefer Graetzer's formula, which is as follows: Take five parts each of flaxseed meal and camphorated oil, two parts mustard and sufficient quantity of boiling water to make a thick paste; spread on gauze and apply to the chest and back. The child is then wrapped in an oil silk jacket, lined with absorbent cotton, which maintains the heat of the poultice. The mustard and the camphor act as a mild counter-irritant, bringing the blood to the surface. The application should be renewed twice in twenty-four hours.

There are several forms of clay preparations and glycerine now on the market, which are not beneficial, possilby injurious. I would as soon risk a good piece of adhesive plaster.

Having arranged our little patient in bed, prepared his room and attendants so that he will get all the oxygen that space will give him, we surround his bed by sheets referred to and commence the spray of benzoin. By the patient's inhalation, the drug will be brought in contact with the lesion; it being a stimulant and a germicide, much benefit may be hoped for. The patient should be given 1 40 gr. of hyd.-chlomitis with double the amount of bi-carbonate of soda every two hours, because of its restraining power over inflammatory exudations.

If this drug will thin the secretions of the parotid gland in health, it is fair to presume that it would have the same effect in disease. That mercury will effect fibrinous exudates there is no question or doubt. Then the time to give it would be during the period of greatest exudation so as to prevent it from becoming too tenacious, so that the air tubes could keep open, thereby, carrying oxygen into the air cells.

What can be done to lighten the right side of the heart? Here is where we get our death rate; here is the weak link in the chain. I will guarantee the lungs, if I can find some one to take care of the right side of the heart. Why? Because, when the lung capacity is taken,

it has no safety valve to relieve the over-supply of venous blood that is poured into this already crippled organ.

I would like, at this point, to vote the whole medical fraternity, unanimously, in favor of taking out of this circulating fluid enough to give the right side of the heart just what it can handle, and take the chances on the damage done to other vital centers. If we slow the blood current with aconite, the volume is not diminished; if we dilate the capillaries with atropine, we are still facing the problem; if we strengthen the heart's action with strychnia, are we not getting rid of the surplus?

Let us see what we have done if we do bleed. We have taken out a quantity of blood whose mission in constructive work is already performed, and the salvage is now being borne through this conduit to the purifying plant in the lungs, which is not able to meet the demands of the overloaded, effete material now needing an escape opening. One says, throw this material into the bowel; another says, put it through the skin; and still another says, let it go out through the kidneys. These measures have all been tried and failed.

In the event that our little patient has sufficient reserve vitality to reach the afebrile stage, then what? Our position as physicians is by no means released from further responsibility. Bloodletting is no longer an issue. Like the case of confinement, which should have been relieved with forceps, has now relieved itself.

We now have adventitious material to dispose of, and the use of iodine is on rational lines; ergot and iron meet respective conditions that are always present. Whiskey and cod liver oil belong to the nutritional side of the problem; neither one has any place during the inflammatory period of the trouble.

I have made no mention of any remedy that is said to be good for bronchitis, but, in the preparation of this paper, tried to give a physiological reason for its use.

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EDITORIAL.

THE NEW MEDICAL PRACTICE ACT.

The new medical practice act passed by the last legislature, became effective on June 15th. Under the provisions of this act anyone desiring to practice medicine in this state must have a license from the state board of health, and none but graduates of reputable medical colleges of four years requirements at the time of graduation if the applicant graduated since March 12, 1901, and of two years requirements if the applicant graduated before that time, may appear before the board for examination for a license to practice. The act also provides for certain preliminary educational requirements, these being the same as the minimum requirements recommended by the Council on Medical Education of the American Medical Association.

Under graduates will not in future be permitted to take the examination for a license to practice medicine; and anyone who attempts to practice medicine without a license or anyone who represents himself in any manner as authorized to or does treat the sick or others afflicted with bodily or mental infirmities, without a license from the state board of health, subjects himself to punishment by fine and imprisonment. This clause widens the field of usefulness of the county medical society who, acting in harmony with the state board of health, can lodge information with the county prosecuting attorney against violators of the law in the county. The law is specific and clear, and illegal practitioners can be prosecuted promptly and successfully whenever the evidence is convincing.

This law will ultimately place Missouri on a plane where its licentiates will have their licenses recognized by other states whose advanced standard in matters of medical education has long been acknowledged, and it will prevent the recognition by the Missouri board of states whose standards are not equal to ours.

The state board of health has appointed a committee to visit the various medical schools in the state in order to learn what facilities these schools possess for teaching medicine, and to determine which schools shall be classed as reputable and be permitted to send applicants to the board for examination, thus bringing the medical schools of Missouri up to the standard recommended by the American Medical Association. The result of this inspection will be published in a later issue. The following members of the board compose the committee: Dr. F. J. Lutz, Chairman; Dr. J. T. Thatcher, Dr. Ira W. Upshaw, Dr. A. H. Hamel.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The House of Delegates of the American Medical Association met at Atlantic City on June 3. Five sessions of the House were held, two on Monday, one on Tuesday, and two on Thursday. The amount of business transacted was larger than has ever previously come before this body. Dr. W. J. Mayo presided over the House on Monday, and on Tuesday the Chair was filled by Dr. Joseph D. Bryant, President Elect, who had been installed at the general session on Tuesday morning. In his President's Address, Dr. Mayo emphasized the growth and development of the *Journal* of the American Medical Association, the work of Dr. McCormack as Chairman of the Committee on Organization, and the work of the Board of Trustees. He recommended the consideration of medical education, the work of the Council on Pharmacy and Chemistry, the life insurance examination question, which, he said, should be settled amicably if possible and the advisability of appointing a committee to expedite the business of the House.

The report of the General Secretary, showed the present membership of the Association to be 27,515, an increase during the year of 3,879 members.

The report of the Board of Trustees, presented by Dr. T. J. Happel, was a statement of the business of the Association from January 1 to December 31, 1906. The first exhibit was the report of the Investors Audit Company, a bonded and incorporated auditing company of Chicago, which showed the results of the auditing of the books of the Association. The net income for 1906 was $325,300.35, of which $103,076.10 were membership dues, $87,694.97 subscriptions to the *Journal*, and $98,458.85 receipts from advertising. The total expenses for the year were $293,385.25, leaving a net revenue of $31,915.10. The various exhibits in the report showed in detail the disposition of the net revenue, the net investment in the Directory, inventory of stock on hand, bond account, publication expenses, organization account, Association account, medical legislation account, medical education account, depreciation of property, and treasurer's report. (This report appears in full in the *Journal* for June 8). The

detailed report from the subscription department showed the circulation for each week of the year, the weekly average for 1906 being 46,479 copies. Tables showing the number of members and subscribers in each state with the gain and loss for the year, the percentage of physicians in each state who receive the *Journal*, and the circulation figures for the past nine years were also given. A lengthy and detailed report was made on all the business interests of the Association and the work in various departments.

The report of the Council on Medical Education recommended that all medical schools be annually inspected for the next three years. That the minimum preliminary educational standard be sufficient education to enable the student to enter the freshman class of a recognized university or college; this minimum to be increased as soon as possible by adding physics, chemistry, biology and one modern language; four years work of thirty weeks and thirty hours per week to be regarded as the minimum amount of time for a medical course. That recognition be refused night schools or schools conducted solely for profit. It urged the Association to ask the state licensing boards to make an annual inspection of the medical schools in their states and to refuse to license undergraduates. The principle of reciprocity was endorsed, as well as the annual conference held by the Council, which should be composed of delegates from each state licensing board and from each state medical society. The report was unanimously adopted.

Dr. F. Park Lewis, as Chairman of the Committee on Ophthalmia Neonatorum, showed from the census report the necessity of counteracting this evil. The committee recommended that it be continued and that it carry on its work in connection with the Sections on Ophthalmology, Obstetrics and Hygiene and Sanitary Science, as well as with the Conference of State and Provincial Boards of Health. This report was unanimously adopted.

Dr. John G. Clark presented a report of the Committee on the Establishment of a Board of Public Instruction. This committee, appointed at Boston last year, recommended the establishment of a board of public instruction on medical subjects, which should endeavor to educate the public through the press, through distribution of pamphlets, through public lectures and circular letters.

Missouri was well represented at the meeting there being seventy-four of our members present. Dr. Walter B. Dorsett, of St. Louis, was elected chairman of the section on Obstetrics and Diseases of Women, and Dr. Hanau W. Loeb, of St. Louis, was elected chairman of the section on Laryngology and Otology.

The election of officers resulted as follows: President—Dr. Herbert L. Burrell, Boston. First vice president—Dr. Edwin Walker, Evansville, Ind. Second vice president—Dr. Hiram R. Burton, Lewes, Del. Third vice president—Dr. George W. Crile, Cleveland, O. Fourth vice president—Dr. W. Blair Stewart, Atlantic City, N.

J. General secretary—Dr. George H. Simmons, Chicago. Treasurer —Dr. Frank Billings, Chicago. Trustees—Dr. T. J. Happel, Trenton, Tenn., re-elected (1907-1910); Dr. W. W. Grant, Denver, Colo., re-elected (1907-1910); Dr. Philip Marvel, Atlantic City, N. J., re-elected (1907-1910).

ASSOCIATION OF AMERICAN TEACHERS OF THE DISEASES OF CHILDREN.

A meeting of professors of pediatrics and hospital clinicians in that branch was held at the Marlborough-Blenheim, Atlantic City, June 3rd. Many of the best known pediatricians of this country were present. A very successful meeting was held, and a permanent organization was effected which bears the name "The Association of American Teachers of the Diseases of Children." Professors, associate professors and lecturers in medical colleges of the U. S., Canada and Mexico also hospital and dispensary staff members actively engaged in treating children are eligible. The principal objects of the organization are to advance the study of children and their diseases and raise the standard of the teaching of pediatrics in medical colleges and its practice in hospitals, dispensaries and private practice. The association elected the following officers: President, Dr. Samuel W. Kelley, Professor Diseases of Children, Cleveland College of Physicians and Surgeons, Medical Department of Ohio Wesleyan University; Vice-president, Dr. Charles Douglas, Professor Diseases of Children and Clinical Medicine Detroit College of Medicine; secretary, Dr. John C. Cook, Professor Diseases of Children Post Graduate Medical School and Hospital of Chicago; treasurer, Dr. George H. Cattermole, Professor Diseases of Children Colorado School of Medicine. Senators, Dr. W. C. Hollopeter, Professor Diseases of Children Medico-Chirurgical College of Philadelphia; Dr. H. M. McClanahan, Professor Diseases of Children University of Nebraska College of Medicine, Omaha; Dr. R. B. Gilbert, Professor of Diseases of Children Louisville University, Medical Department.

FEES FOR LIFE INSURANCE EXAMINATIONS.

The American Association of Medical Examiners in session at Atlantic City June 3rd, recorded itself as being unanimously in favor of not accepting any reduction in the amount of compensation allowed by life insurance companies for the examination of an applicant, it being considered by all examiners present that the minimum fee of five dollars was low enough and that insurance companies should be willing to pay that amount for a proper examination and report of any applicant, irrespective of the amount of policy applied for. The Association also went on record as being in favor of the establishment of a Bureau of Health by the Federal Government, the secretary to be a physician and to rank in authority and importance with other members of the President's Cabinet.

THE DANGERS OF ELIXIRS.

Simple elixir, so called, has been adopted as a common vehicle in prescriptions intended for children, yet it is probable that but few physicians realize that this elixir contains a considerable proportion of alcohol which under other circumstances they would hesitate to administer. It remains for a pharmacist to call attention to this fact, and to show that the ordinary doses of the preparation may be productive of considerable harm in those of tender years. Mr. E. F. Heffner, in a paper read at the twenty-ninth annual meeting of the Pennsylvania Pharmaceutical Association, cited a number of common prescriptions in which this might occur.[1] Thus sodium bromide is very often administered in the proportion of one grain to the teaspoonful of simple elixir, every hour or half hour, which means that the child, often less than a year old, is getting about a quarter of a teaspoonful of alcohol at every dose, or the equivalent of two teaspoonfuls of wine or over half a teaspoonful of whisky or brandy. In older children correspondingly larger doses are given, which are not only harmful in themselves, but also counteract the sedative effects of the bromide. Another common prescription contains chloral and bromides in simple elixir, which makes a bright, clear, and palatable solution. But the fact is overlooked that there is a chemical incompatability of chloral and alkaline bromides in alcoholic solution, for on standing the chloral alcoholate will come to the top in a clear layer of about the same color as the rest of the mixture. Unless shaken, the patient is likely to get all the chloral in one dose. These examples need no comment, for the dangerous effect of alcohol in children is of common knowledge, but as Heffner truly states, it is well that the prescribing mind be occasionally refreshed in cases of this kind. In order to avoid any possible danger he advises the use of an aromatic water and simple syrup as a vehicle in prescriptions of this nature.—(*Medical Record.*)

OBITUARY

JOHN W. TRADER, M. D.

Dr. John W. Trader was born in Xenia, Ohio, March 6, 1837. His father, Rev. Moses Trader, moved to Missouri in 1840, and settled near Brunswick, Chariton county, and in 1844 moved to Linn county, Mo.

In 1854 Dr. Trader began the study of medicine with Dr. Alex S. Hughes, of Lindley, Grundy county. He afterward attended the Missouri Medical college, graduating from that institution in 1859, after which he practiced medicine until the breaking out of the civil war.

In the early part of the war he commanded a company in the state militia, but in 1862 he joined the federal forces at Laclede, Mo., and was commissioned assistant surgeon.

In 1864, by special order, he was made brigade surgeon of the First brigade of Gen. Pleasanton's cavalry corps.

In April, 1865, he was mustered out of the volunteer service, and immediately took service in the United States medical corps as surgeon, and was assigned to duty at Jefferson barracks. From there he was ordered to New Orleans as medical director on the steamer Baltic. He resigned his commission in May, 1865, having served almost throughout the entire war.

JOHN W. TRADER, M. D.

After the war Dr. Trader located in Lexington, Mo., and engaged in the practice of medicine until late in that year, when he moved to Sedalia, where he had since made his home and practiced his profession.

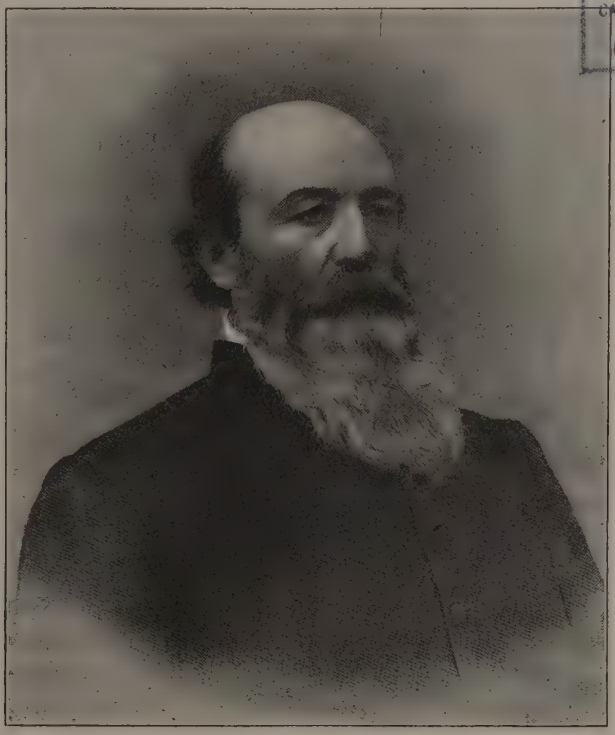
In 1876 he was elected president of the Missouri State Medical Association and in 1877 he was appointed a delegate to the American Medical association, which met in Chicago, and attended the same.

During the same year he was appointed surgeon for the M. K. & T.. railway, which position he retained for three years.

In 1878 he was appointed by the curators of the state university on the examining board of the medical department of the state university, and held the office several years.

I. M. RIDGE, M. D.

Dr. I. M. Ridge was born in Adair County, Kentucky, on the 9th of July, 1825, where his earlier boyhood days were spent. In 1834 he came with his father to Missouri and worked both upon the farm and at the blacksmith forge for six months out of the year; the



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I. M. Ridge, M. D.

remaining half year he spent in private schools, thus acquiring a general education, and at the same time learned to be a farmer and a mechanic. Even in after years when he had begun practice it was generally known of him that he could shoe a horse as well as set a limb. At the age of twenty-three he garduated with honors from the medical department of the Transylvania University at Lexington, Ky. Soon

after his graduation he located at Kansas City, then a mere hamlet and camping ground for Indians. This was the time when thousands of prairie schooners wended their way toward the setting sun in search of gold, and when men fell like soldiers before the foe, victims of the dreaded Asiatic cholera. In caring for these unfortunates it was only to be expected that the doctor himself would be claimed as one of its many victims, but while he lay for several days at the point of death his good work was not yet done and his life was spared. During the Civil War he remained at his post and during the many skirmishes which occurred both in Kansas and Missouri he was called upon to serve all alike.

Dr. Ridge served as Councilman in Kansas City, and for ten years was City Physician. He retired from active practice in 1875, and for several years did office practice only. Later he discontinued office practice and devoted his entire time to his vast estates. He was always one of the first to head any philanthropic movement for the benefit of the city in which he lived, and though he had not practiced for many years he took many medical journals and up to his last severe illness read them and could discuss them fluently with his many friends in the profession. He remained a member of the Jackson County Medical Society up to the time of his death. For several years his health had not been the best and for the last year he had been confined to his bed. He seemed to realize that death was not far away and many times during his last sickness Dr. Ridge said to his wife "If in my last sickness any complications should arise that would baffle the surgeons and physicians I wish that you would insist on a thorough post mortem for the enlightenment of my profession and the benefit of humanity, as many of my friends are suffering as I have suffered." He died at his home May 7th, at the age of 82 years.

FRANCIS WITHERS ALLEN, M. D.

Dr. F. W. Allen was born April 1st, 1832, in Howard County, Mo., and died March 23rd, 1906, at his home at Lone Elm, near Barryville, Mo., at the age of 74 years. His boyhood was spent on the farm where he received his primary education. In 1851 he matriculated in the Missouri State University and later in Bethany College (Virginia), graduating from the last named institution with much credit. He immediately began teaching and afterwards established a high school in Macon, numbering among his pupils several who afterwards distinguished themselves in various vocations.

He studied medicine at the Missouri Medical College at which institution he received his medical degree. After his graduation he began the practice of medicine near Barryville continuing in this field until himself stricken with penumonia. His first patient was his last patient, the professional calls being more than forty-two years apart.

As a man he stood for everything that was good, and made use of all his talents in a way that falls to the lot of but few physicians in the present day. As a physician, he was untiring in his efforts to serve his people. His heart was in his work and to rich and poor alike he ministered. He was a firm believer in medical organizations and a faithful attendant upon the meetings of the county society, often coming fourteen miles through the cold to attend. He was also a member and frequently attended the State Association meetings. He was an earnest believer in the doctrines of the Christian Church and an earnest worker in the same. At his funeral four generations, for whom he had labored faithfully and unselfishly, mingled their tears at his bier.

PETER J. WEBER, M. D.

Dr. Peter J. Weber died of blood poisoning at the St. Louis City Hospital, May 29, after a brief illness. Dr. Weber graduated from the medical department of the Washington University in 1906. He was second on the list in the competitive examination for a position in the City Hospital, where seventy-five were applicants. He was looked upon as one of the brightest and most promising young physicians in St. Louis.

WM. H. ROBB, M. D.

Dr. Wm. H. Robb died at his home in St. Louis on March 5th, 1907. He was born Nov. 20th, 1840, on a farm near Pittsburg, Pa. As a boy he worked on the farm and went to school. He enlisted in the Union Army 1861 and served three years. After the war he studied medicine and in 1871 he moved to St. Louis where he practiced medicine until his death.

A. C. BERNAYS, M. D.

Dr. A. C. Bernays, of St. Louis, died on May 22, 1907, aged 52 years. He was a graduate of the University of Heidelberg. After studying under a number of the surgical masters of Europe he came to St. Louis and practiced in that city until his death.

CORRESPONDENCE.

St. Louis, Mo., June 11, 1907.

Editor, Journal of the Missouri State Medical Association:

In the excellent Oration on Medicine which was delivered by Wm. F. Kuhn, M. D., and published in the June issue of your journal, I notice the following statement: "Who, but Leeuwenhoek, a glass grinder, first demonstrated to vision the continuity of artery with vein by means of capillaries," etc.

I assume that by these words Dr. Kuhn intends to give the credit of the discovery of the capillaries to Leeuwenhoek. If so, he is in error. All historians of medicine are agreed that the Italian, Malpighi, was the first person to observe the passage of blood from the minute arteries into the capillaries and thence into the veins. This was in the year 1661, four years after the death of Harvey. Furthermore, as late as 1686, Leeuwenhoek denied the connection of the smallest arteries with the beginning veins, a mistake which he corrected in 1690. (See Sprengel: *Versuch einer pragmatischen Geschichte der Arzneikunde*, Theil iv. pp., 77, 78, Halle, 1801.)

Very truly,

James Moores Ball.

Editor Journal Missouri State Medical Association:

At the last regular meeting of the Moberly Medical Society I was appointed one of a committee of three to draft an article for publication in your journal regarding the action the society had taken concerning fees for medical inspection for the Metropolitan and Prudential Insurance Companies. The article we wish to have published is given below.

Respectfully,

O. O. Ash, M. D., Secretary.

The Moberly Medical Society composed of all the practicing physicians in the city, at its early May meeting, adopted resolutions which it is to be hoped will find an echo that will resound throughout the state, to the benefit of medical societies and the profession where societies do not exist. The resolutions adopted provide that in the future no less than fifty cents may be charged for an inspection of candidates seeking insurance in the Prudential or Metropolitan Insurance Companies; the signing of the agreement was unanimous. Heretofore the maximum rate has been twenty-five cents for an inspection and the Moberly Society have demanded and will receive the increase on the grounds that this rate is entirely too low, and ridiculously out of proportion to the rates charged for professional services rendered private parties. The Moberly Medical Society hope to see their brothers in other sections profit by adopting similar resolutions.

A CORRECTION.

In the paper by Dr. Norvelle Wallace Sharpe, published in May, a transposition of references from the bottom of the page into the body of the article, caused considerable confusion in the conclusions as printed. The Conclusions should have read as follows:

VIII. *Conclusions.*—

I. The blood-supply of the ureter is ample, of which probably the peri-ureteral arterial plexus is the most essential factor.

II. Operative procedures which conserve the blood-supply, in particular the peri-ureteral arterial plexus, are ordinarily satisfactory.

III. When the integrity of the ureter is impaired, restitutional rather than destructive surgical measures should be followed.

IV. Of which restitutional measures the various methods of uretero-ureteral anastomosis are recommended.

V. Intraperitoneal trans-uretero-ureteral anastomosis is an anatomic possibility; it is also a physiologic success.

VI. Retroperitoneal trans-uretero-ureteral anastomosis, whether anterior or posterior to the aorta and vena cava, is an anatomic possibility. (Further experimentation is essential in order to prove that it is a physiologic success). The route followed is the shortest path between the two ureters. The technical difficulties are not excessive. It is highly probable that this method impairs the ureteric blood-supply less than any other method in vogue.

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*Of very great interest, in connection with the problems incidental to wounded ureters or such other conditions that may tempt the operator to find a solution in a nephrectomy, is the work of Carrel, Floresco, Guthrie and others in organ-transplantation. They have most ingeniously devised and successfully executed plans by which the kidney, heart and other organs, removed from their normal site and transplanted elsewhere, have continued functionation. The three natural subdivisions of auto-transplantation, homo-transplantation and hetero-transplantation—have received consideration and experimental work is of record. This suggestive research is pregnant with possibilities for future development. For details see:

Carrel. La technique operatoire des anastomoses vasculaires et la transplantation des visceres. Lyon Medical, 1902.

Carrel. Les anastomoses vasculaires; leur technique operatoire et leurs indications. Ze congres des Medecins de langue Francaise de l'Amerique du Nord. Montreal, 1904.

Floresco. Conditions de la transplantation du rein. Recherches sur la transplantation du rein. Jour. de Physiol. et de Pathol. generale, 1905.

Carrel and *Guthrie.* Functions of a Transplanted Kidney. Science, October 13, 1905.

Carrel. Transplantation of Organs. Jour. Am. Med. Assn., 1905, vol. xlv. p. 1645.

Carrel et Morel. Anastomose bout a bout de la jugulaire et de la carotide interne. Lyon Medical, 1902, v. 99, p. 114.

Carrel et Morel. Presentation d'un chien, porteur d'une anastomose arterie veineuse. Lyon Medical, 1902, v. 99, p. 153.

Carrel. Anastomosis and Transplantation of Blood-vessels. American Medicine, 1905, August.

Carrel and *Guthrie.* The Reversal of the Circulation in a Limb. Annals of Surgery, 1906, v. xliii, p. 203.

RESULTS OF THE EXAMINATION OF APPLICANTS TO PRACTICE MEDICINE.

At the last meeting of the State Board of Health, held in St. Louis and Kansas City simultaneously, two hundred and twenty-eight applicants for licenses to practice medicine in Missouri were examined. Of this number one hundred and fifty-four made a passing grade while seventy-four failed of passage, or 32 per cent. of failures.

This is the last examination under the old law. It is required hereafter that the applicants have a preliminary education, to-wit: A diploma from a High School, State Normal School, State University, Academy or a certificate from a County School Commissioner, showing that the applicant's qualifications are equal to that of a graduate from an accredited High School. The applicant must also be a graduate of a four year reputable medical college before taking the examination.

The next examination will be held in Mexico, Missouri, on July 9-10-11th. Under the new law the failures before the Board will be very few and the disappointments that have heretofore been so common will almost entirely cease.

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The following tables show the colleges from which the applicants graduated, the number of applicants from each college and the year of graduation.

PASSED.

Washington University, St. Louis	28—'07; 1—'00
St. Louis University, St. Louis	2—'06; 3—'08; 21—'07
University of Missouri	2—'07
Barnes University, St. Louis	1—'06; 18—'07; 3—'08
P. & S. of St. Louis	1—'06; 4—'07; 3—'08
Louisville University	1—'07
Hosp. Col. of Med., Louisville	1—'07
Eclectic Med. Institute of Cincinnati, O.	1—'96
Homeopathic Med. Col., St. Louis	4—'07
Drake Uni. Med. Dept	1—'98; 1—'06
Westminster Med. Col., London, Eng	1—'00
P. & S. of Chicago, Ills	1—'07; 1—'06
Eclectric Med. Uni., Kansas City	1—'07
American Med. Col., St. Louis	2—'07
University of Naples	1—'82
University of Tennessee	1—'07
Rush Medical College	1—'07; 1—'03; 2—'00
Uni. Med. Col. of Kansas City	26—'07; 9—'08
Kansas City Hahnemann	1—'07
Menarry Medical College	1—'05
Ens. Cent. Med. Col., St. Joseph	5—'07
University of Kansas	3—'07
National Medical University	1—'05

FAILED.

Washington University, St. Louis.....1—'06; 1—'07; 2—'08
St. Louis University, St. Louis.....4—'06; 3—'07
Barnes University, St. Louis.....1—'99; 2—'05; 1—'06; 2—'07; 2—'08
St. Louis Col. P. & S.....1—'02; 2—'06; 8—'07; 2—'08
Kentucky School of Medicine.....1—'07
Memphis Medical College .....1—'04; 1—'06
Med. University of Athens.....1—'97
Homeopathic Med. Col., St. Louis.....1—'07
Eclectic Med. Uni., Kansas City.....1—'07
American of Chicago.....1—'05
Louisville Medical College .....1—'99
Bennett of Chicago.....1—'06
National of Chicago .....1—'06
American Med. Col. of St. Louis.....1—'06; 3—'07
Uni. of Camerino, Italy.....1—'92
Uni. Med. Col. of Kansas City.....1—'01; 9—'07; 3—'08; 1—'09
Meharry Medical College .....1—'06
Ens. Cent. Med. Col., St. Joseph.....1—'05; 1—'06
Keokuk Col. of P. & S.....1—'08
University of Kansas .....1 '08
University of Naples .....1—'50
Uni College of Medicine of Va.....1—'95

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

The meeting was called to order at the office of the secretary at 8 p. m., June 6th.

A clinical case of leucoderma was presented by Dr. Gashwiler.

The secretary reported that he had stated to the prosecuting attorney the facts surrounding the death of Mrs. Brown, who was cared for in confinement by a midwife. The case was referred to the Grand Jury.

Dr. Noe read an instructive paper on extra-uterine pregnancy which was discussed by all members present.

Dr. E. A. Grim presented a paper on "Conjunctivitis" and considered all of the forms that are commonly met with in general practice. Dr. Hanks opened the discussion.

Eight members were present.

Society adjourned to meet on the first Thursday in July—E. C. Grimm, M. D., Reporter.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

A meeting was held at Cape Girardeau, June 7th, eight members being present.

Dr. H. L. Cunningham read a paper on "Anterior and Posterior Displacements of the Uterus." Dr. J. D. Porterfield, Jr., read a paper on the "Surgical Treatment of Prolapsus." Dr. Walker presented a paper entitled "Simple Endometritis," and Dr. Wilson contributed an essay on "Gonorrhoeal Endometritis and Technique of Curettage."

Dr. G. W. Vinyard, delegate to the State Medical Association, made his report.

On motion the Society adjourned to meet in Jackson, Mo., July 5th.—E. H. G. Wilson, M. D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY.

The regular meeting of the Carter-Shannon County Medical Society, was called to order by Dr. T. W. Cotton, vice-president, the president Dr. Frank Hyde having moved out of the district.

The following physicians were elected to membership: Dr. Alexander Johnson, Dr. George D. Andrews, Dr. H. M. Griffith, Dr. R. G. Roth, all of Grandin, Mo.

An interesting paper on puerperal septicemia was read by Dr. P.

D. Gum, of Birchtree, and discussed with much interest. Another paper by Dr. Wm. Fulton of Winona, was read and discussed by all the members present.

The election of officers resulted as follows: Dr. Wm. Fulton, president; Dr. P. D. Gum, vice-president; Dr. J. A. Chilton, secretary and treasurer.

The meeting was a very interesting and successful one. The next meeting will be held at Fremont.—J. A. Chilton, M. D., Reporter.

CASS COUNTY MEDICAL SOCIETY.

The Cass County Medical Society met in regular session at Pleasant Hill, Thursday, May 2nd. While the attendance was not as large as had been expected, still the session was a very interesting and beneficial one. Only two papers were read, "Nervousness and its Relation to Insanity," by Dr. John Punton, and "Diseases of Women having their Origin in the Lying-in Chamber," by Dr. Harrelson, but these two subjects were treated so completely by their authors as to furnish abundant food for thought for the whole meeting.—W. F. Chaffin, M. D., Secretary.

CEDAR COUNTY MEDICAL SOCIETY.

Cedar County Medical Society convened by special invitation of Dr. Dunaway at his home town, Caplinger Mill, on June 12th. After a splendid dinner prepared for the members of the Society and their wives, the Society was called to order.

The President called for reports of Committees. Dr. Crawford chairman of committee on the Dr. Crabtree trial before the State Board of Health on the charge of being an abortionist, reported the case was decided against Dr. Crabtree and his certificate was revoked.

Several cases were brought before the Society and a most interesting and instructive discussion followed each case. These cases were taken from our every day practice and, therefore, intensely interesting; in fact, so much so that we never got beyond this order of business and we were obliged for lack of time to postpone the papers prepared for this meeting. However, all the members expressed themselves as having enjoyed and profited so much from the general discussion of cases which all were liable to meet at any time that they were perfectly satisfied to continue the papers for our next meeting, to be held at El Dorado Springs on July 19th.—C. A. Edgar, M. D., Reporter.

COOPER COUNTY MEDICAL SOCIETY.

Cooper County Medical Society met in Boonville on Tuesday, June 4th.

Dr. Taylor of Speed, reported a case of aphasia and internal stra-

bismus of left eye in a patient who had suffered from an explosion of dynamite. Patient was thrown several feet by the force of the explosion and was severely bruised over the chest and on the left frontal region. The aphasia persisted for several weeks and also the strabismus but both are improving under the use of iodide of potassium.

Dr. Smiley reported a case of fibroid of several years duration; the tumor filled the entire vaginal vault and extended up into the uterus. On account of the size of the growth attempts to remove the tumor had been difficult; a constant discharge was present rendering abdominal operation unfeasible and vaginal removal by means of the ecraseur was being tried with enough success to warrant further attempts. At present a large mass has been removed and the condition of the patient is much improved.

Discussion of these proved interesting. Following this discussion the resolution upon "Contract Practice" was brought before the Society.

Dr. Smith moved that the Secretary write the Secretary of the American Medical Association in regard to contract practice of all kinds; fraternal, practice in State institutions, railway practice, practice in private schools or institutions, etc.

Upon a vote of five to one the Society then adopted the following resolution:

Whereas, it having come to our knowledge that it has become a custom among many of the fraternal organizations and societies to contract with a physician or physicians, usually members of their orders or societies, to obligate themselves as physicians to attend the sick members thereof, under contract, at a price regulated and determined by the society or order, such price or remuneration being much less than that charged for similar services in the same community, thereby debasing and degrading our noble profession, therefore, be it,

Resolved: That the Cooper County Medical Society condemn such contract practice and that its members agree and declare that they will not enter into such a contract with any lodge, society or association whatever, except to act as examiner for candidates for membership therefor.

Following the adoption of the above resolution the Society adjourned to meet July 2nd, 1907.—John R. Lionberger, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

MEETING OF MAY 10TH.

Annual Business meeting, Dr. W. A. Coy and Dr. R. L. Pipkin of Springfield were elected to membership in the Society. Dr. Farnsworth, Chairman of the committee on Revision of Fee-Bill reported that this committee had used our twenty-three year old Fee-Bill as a

foundation and found that very few changes were necessary. This report was discussed by Drs. Camp, Boyd, Fulton, Smith, Ralston, Terry, Tefft, Evans, Barnes, Cox, Coffelt and others and with one amendment the Fee-Bill as reported by the committee was adopted. The principal charges are $2.00 for day visit, $3.00 to $5.00 for night visit, $1.00 for ordinary prescription, $2.00 to $5.00 for a Life Insurance Examination, $10.00 to $25.00 for Natural Labor.

The Society discussed the eligibility to membership of graduates from eclectic medical colleges and it was the general opinion that where one did not practiec sectarian medicine, had a license from the State Board of Health, and there was no other objection, he would be eligible to membership in this Society.

MEETING OF MAY 24TH.

Drs. T. Doolin and Onas Smith of Ash Grove, Dr. C. J. Pike of Willard, Drs. C. A. Tucker and J. E. Dewey of Springfield were all elected to membership in the Society. After quite a discussion it was decided to publish the ordinary charges of the Fee-Bill in the Newspapers so the people would understand the charges.

Dr. J. W. Williams read a very interesting paper entitled "Intemperance in Eating," and said in part:

Intemperance in eating has existed since the beginning, although it has not been emphasized as much as intemperance in drinking.

Intemperance in eating and drinking is caused from lack of will power or self control. When whisky, tobacco or coffee, are used intemperately it is because the user derives pleasure from their effect, and again the sense of taste and smell are most pleasant things to satisfy, but when we indulge them so as to become sick we are intemperate and deserve to be placed in the same category as the individual who is intemperate from the use of intoxicants.

I have thought and believed for a number of years that the number the people who are intemperate in eating far exceeds those who are intemperate in drinking.

A comparison of the two kinds of intemperance is strongly similar a man comfortably full of liquor will say that he has not had a drop; this looks as though his moral character was wanting, but take one of your lady patients, a refined, intelligent woman, suffering from habitual headache, constipation and attacks of acute indigestion, sick at the stomach and anxious for relief; she tells you she has not eaten a thing that could hurt her but, being somewhat, doubtful you administer an emetic which promptly brings up a lot of indigestible things.

MEETING OF JUNE 14TH.

Dr. Fulton our Delegate to the State Meeting at Jefferson City made an interesting report as also did Dr. Coffelt, Councillor from this District. The State Association has about 2,500 members and

$5.500 in the Treasury. The next meeting is to be held in Springfield and all Greene County members are urged to do everything in their power to make this meeting a success.

Dr. E. G. Beers who was a member of the Medical Department of the Navy from 1901 to 1905, read a very interesting and instructive paper entitled, "The Medical Department of the U. S. N. and Some of the Tropical Diseases With Which it Comes in Contact." The doctor said in part:

This Department, or Bureau of Medicine and Surgery, is under the charge of the Surgeon General of the Navy who holds the rank of Rear Admiral while filling this position. The members of the Medical Department are changed from ship to hospital and so have varied experiences.

Each must be able to manage a hospital or meet any emergency in the line of disease or accident. During the last few years much knowledge has been obtained by contact with many diseases.

In the Philippines alone are many diseases. Dengue is one of the most general although Asiatic cholera is probably the most dreaded but the bubonic plague comes a close second. The cholera was most common among the natives and on shore. From the first case reported, March 20, 1902, to the last case reported, March 8, 1904, there were 166,252 cases with 109,461 deaths reported to the Bureau of Health for the Philippines.

Leprosy is another prevalent disease. Smallpox is mild there. Beri-beri is treated by change of climate; the symptoms are edema, dyspnea, rapid pulse and paralysis.

JACKSON COUNTY MEDICAL SOCIETY.

MEETING OF APRIL 2, 1907.

The regular weekly meeting of the Jackson County Medical Society was held on Tuesday evening, April 2nd; there were present ninety in all.

The scientific program which consisted of a Symposium on Syphilis. Those taking part in the symposium were: First.—Etiology and Initial Lesions, by Frank Hall, who, aside from the histo-pathology of the lesion, demonstrated the spirochete pallida under the microscope.

Second.—Syphilis of the New Born, by Dr. Robert T. Sloan, mentioning cutaneous manifestations which he gave as many and varied; the absence of eye brows and eye lashes; enlarged liver, which he said was almost pathognomonic—sniffles and bone involvement.

Third.—Syphilis of the Nervous System, by Dr. John Punton. He spoke of softening as a result of changes in blood vessels and nerves directly.

Fourth.—Prognosis and Treatment, by Dr. Jacob Block, who re-

marked that if let alone many cases would recover. When treated the prognosis is good, at least much better than tuberculosis, rheumatism and other diseases that are not so much dreaded. He condemned excision of chancre as being useless. The administration of potass. iodide and mercury in different forms was the main treatment. In deep infiltrating serpiginous forms of the skin, cod-liver oil and tonics are imperative; here you must withdraw regular syphilitic remedies.

Those taking part in the discussion were Dr. Wm. Frick, E. G. Mark, Hugh Miller, B. E. Freyer, Abe Miller, W. M. Reed, C. J. Morrow, W. L. McBride, S. P. Child, C. M. Fulton, and Maggie McCrea. Each essayist then made a few closing remarks.

MEETING OF APRIL 8TH.

A special meeting was called April 8th, there being present in all forty, among whom were Dr. C. M. Nicholson, Secretary Missouri State Medical Association, Attorney Barth, also of St. Louis, and Geo. Creel, Editor of the "Independent" of Kansas City. Each of the above gave an address in the order named relative to new state laws and what we could expect to accomplish by said laws in driving out quackery and abortionists. Others speaking were Doctors Langsdale, J. D. Griffith, Jabez Jackson, H. E. Pearse, and C. L. Hall. A motion was made by Dr. Jackson that a rising vote of thanks be taken in behalf of the society for the earnest efforts put forth in the interest of our society, which motion unanimously carried.

MEETING OF APRIL 9TH.

The regular meeting of the Society was called to order April 9th by the president, O. H. Dove, there being thirty-six in attendance.

Dr. C. B. Hardin reported an interesting case of secondary anemia due to gall stones in gall bladder and common duct which a postmortem examination showed to be also cancerous. Doctors B. C. Hyde, W. A. Shelton, J. M. Goodson, B. E. Freyer and R. E. Castelaw discussed the subject, and Dr. Hardin closed discussion.

The Chair then called upon Dr. H. O. Leonard for a report of a case of eclampsia. The doctor reported a case which had fallen into his practice the previous evening. In view of the fact that he had prepared a paper to read before the society, the doctor refrained from entering into a general discussion of the subject, but limited his remarks to the individual case. Those discussing the case were Doctors C. B. Hardin, F. S. Van Eman, W. L. Campbell, F. E. Murphy and Benjamin Jacobs.

MEETING OF APRIL 16TH.

Regular meeting was held on Tuesday Evening, there being present fifty-three.

First on the program was a paper entitled "Transverse Foetal Presentation," by Dr. F. T. Van Eman. It consisted of a careful

review of the literature on the subject, together with report of a case that had recently been his misfortune to meet in his practice. Those discussing the paper were Doctors Zwart, Leonard and Jacobs.

Dr. Zwart next reported a case by request. A young man who had died that day with a peculiar cuticular pustulation, accompanied by dilatation of heart and though no post mortem could be held he considered it a case of septic endocarditis. Those discussing the case were Drs. Murphy, Porter, Morrow, Leonard and Brewster.

Dr. Murphy reported two cases, one a floating kidney; the other a case of gonorrhœal rheumatism. Those discussing the cases were Drs. Zwart, Child, Thrailkill, Castelaw, Stephens and Brewster.

MEETING OF APRIL 23RD.

Regular weekly meeting was held on Tuesday evening. There were present forty-five in all. The first on the scientific program was a paper by Dr. F. W. Froehling entitled "Kidney Affections as a Result of Chronic Gastro-Intestinal Disturbances." The essayist first reviewed the literature upon the subject which he reported as being very scarce, such affections as nephritis, met with in acute fevers and acute gastro-intestinal trouble, as well as all advanced cases of gostro-intestinal carcinomas, not coming under the class that he wished to discuss. He pointed to those cases especially where indigestion and chronic constipation had existed and farther where albumen and casts, both hyaline and granular had been found, which cases after treatment, largely dietary, had cleared up and, as patient otherwise maintained his perfect health, failed in years to again appear. In conclusion he stated it was his belief that not every case of albuminuria, associated with casts, was a case of the incurable nephritis that for years had been a horror to the practitioner, but that many of these cases are due to gastro-intestinal derangements, which, if treated before going too far, were curable. Those discussing the paper were Doctors Frank Hall, C. B. Harding, J. Q. Chambers, Ernest Robinson, B. C. Hyde, H. H. Look, F. H. Brunig and Wm. Frick. Dr. Froehling closed the discussion.

Dr. J. Z. Chambers next reported a case of pyemia associated with jaundice and multiple liver abscesses in a man 21 years old. Discussion by Drs. J. F. Binnie, Ernest Robinson and E. L. Stewart.

MEETING OF MAY 7TH.

Regular meeting was held in Atheneum Club rooms Tuesday evening, May 7th. There were present in all forty-five.

Dr. Albert Florian presented a case of organized pleural exudate in a man, age 55. Eight years ago he suffered from an acute attack of lobar pneumonia and was in bed six weeks; since that time has never been strong and coughs constantly; the left side was contracted and there was much dullness on percussion; expectoration that of chronic bronchitis.

Drs. Hyde and Murphy had examined case and reported on same. Drs. Connover, Froehling and Hertzler also spoke.

Dr. E. M. Hetherington reported a case of habitual masturbation in a little girl thirty months old, doubtless due to redundant labia and retained secretion about the clitoris, causing it to become highly inflamed. The child was mentally dull and at this age could neither walk nor talk. A circumcision was performed and in six weeks the child was completely cured of the habit.

Discussion by Dr. Scott P. Child.

Dr. R. E. Castelaw read a paper entitled "A Report and Discussion of Two Cases of Permanent Insanity Following Head Injury." Both cases had apparently recovered from blow and then suddenly developed acute mania. Both were alcoholics. The doctor remarked that both alcohol and syphilis act as predisposing causes in these cases, and further that without these diseases severe blows might be sustained but insanity would not develop. He also spoke of that class of temporary insane who, having recovered from head injury, remain rational until they become intoxicated when they also develop mania which lasts till they again become sober.

Drs. Hanawalt, Hill and Burnett in discussing this paper agreed with what the essayist had said and mentioned cases verifying the statements.

New members: Geo. P. Pipkin, Dale Lucas, Harrold P. Kuhn, Fred N. Pugsley, J. Thomas Pittman, F. W. Overall, Stephen H. Ragan.

MEETING OF MAY 21ST.

On account of fire having destroyed our regular meeting place the meeting was held at the Coats House; attendance forty-seven.

Dr. H. C. Anderson presented a most excellent paper on "Anesthetics" which was a resume of years' of experience and careful study on the subject. He scarcely mentioned any anesthetics other than ether and advised the use of the Bennett inhaler in all cases save children under 9 years of age. Here he said the drop method had been more satisfactory to him. So complete was his paper that nothing short of repetition would here do it justice. The doctor first administers gases until they are narcotized then uses ether.

Dr. O. J. Cunningham, who opened the discussion, stated that he favored the drop method on account of free oxygenation and condemned the Bennett inhaler where the patient breathes and re-breathes the same air; he favored gas administration on account of there being less excitement, hence, he said, less nausea. Others discussing the paper were Drs. Ernest Robinson, Wever, Kyger, Lichtenberg, G. W. Davis, McCrea, Ritter, Froehling, Hyde, Wm. Frick, McArthur, Skinner, J. N. Scott and Castelaw. Dr. Anderson closed the discussion.

Dr. Franklin E. Murphy made a report of State meeting, stating

among many other things that Jackson County had been made a councillor district. His report by motion was placed on file.—E. L. Stewart, M. D., Secretary.

LINN COUNTY MEDICAL SOCIETY.

The Linn County Medical Society held its regular meeting at Marceline June 25th.

A resolution was passed changing the meetings from quarterly to monthly. Regular meeting places were arranged for as follows: Brookfield in February; Bucklin in April; Marceline in June; Linneus in August; Meadville in October; Laclede in December. The time of the meeting will be on Tuesday evening nearest the full of the moon. The December meeting will be the annual meeting at which time officers will be elected for the next year.

Dr. C. D. Stratton, of Rothville, read a paper on the subject of "Pancreatic Inflammation; Its Recognition and Treatment." The paper brought forth an interesting discussion.

The next meeting will be held in Linneus, August 20th. The following program has been prepared for this meeting: "Pertussis," by Dr. W. H. Musgrove; "Water as a Therapeutic Agent." by Dr. Kathyrn V. Stanley; "Suppurative Inflammation of the Mammae," by Dr. D. F. Howard.—F. W. Burke, M. D. Secretary.

PETTIS COUNTY MEDICAL SOCIETY.

The following resolutions were adopted by Pettis County Medical Society:

Whereas, an all wise God has removed from our midst one of our members, Dr. John Wesley Trader, and,

Whereas, we knew him to be an upright, Christian gentleman, and splendid physician, and,

Whereas, this Society has lost a faithful and ethical member, therefore,

Be it resolved that his family has lost a kind father, and his wife, a devoted husband.

Resolved, further that these resolutions be spread on the minutes of our Society, and that a copy be sent to his family.

We can say of him "Life's race has been well run, life's duty well done, he has entered into rest."

W. G. Cowan,
E. F. Yancey,
W. J. Ferguson,
The Committee.

RANDOLPH COUNTY MEDICAL SOCIETY.

A meeting of the Randolph County Medical Society was held at Moberly, Tuesday, June 11th.

Dr. C. B. Clapp was elected Vice-President of the Society.

Interesting talks were had on various cases brought to the attention of the Society, and Dr. Ragan of Macon, Councillor of this District, gave us a good address on "The Needs of Co-operation."

It was unanimously voted that meetings be held twice a month instead of once a month as was the previous custom; said meetings to be held the second and fourth Tuesdays of each month.—G. O. Cuppaidge, M. D., Reporter.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY.

Ste. Genevieve County Medical Society held its regular meeting June 12th.

The application of Dr. Edward Ford of River Aux Vases was voted on and he was unanimously elected a member.

A paper by Dr. Rutledge on "Digestion and Assimilation" was received with interest and attention.

Dr. Rutledge offered the following resolution: "That our fees for life insurance examinations for benevolent societies be not less than $2.00 for each examination." On motion the resolution was adopted unanimously. This resolution is to take effect immediately from and after the next regular meeting of the several fraternal societies, but not to apply to members who have been solicited and whose applications were secured before this meeting.

Dr. Hertich is on program for clinical report of a case for the next meeting and Dr. Moore for a paper.

No further business appearing the Society adjourned until the second Wednesday in July, 8:30 a. m.—R. W. Lanning, M. D., Secretary.

SOUTHEAST MISSOURI MEDICAL ASSOCIATION.

The Southeast Missouri Medical Association held its 31st annual meeting at Fredericktown, on May 7, 8 and 9. The attendance was about fifty. Kennett, Missouri, was selected as the place for the semi-annual meeting, October 15, 16 and 17, 1907. The following officers were elected for the ensuing year: President, Frank S. Vernon, Farmington; vice president, Ira A. Marshall, Farmington; recording secretary, G. L. Johnson, Kennett (re-elected); corresponding secretary, T. C. Allen, Bernie (re-elected); treasurer, W. R. Goodykoontz, Caledonia (re-elected). The citizens of Fredericktown afforded the visitors every entertainment that could be utilized, and some proposed trips were declined on account of lack of time.

The following scientific program was rendered and each number was earnestly and ably discussed. "Nasal Obstruction," H. L. Reid, Charleston. "Observation of Some Peculiar Obstetrical Conditions Encountered in General Practice," G. H. Greenwood, Fredericktown, Mo. "Pneumonia: Some Peculiar Cases," J. A. Atkisson, Morehouse. "Concussion of the Brain," Ira A. Marshhall, Ironton. Malaria in the Puerperium," W. S. Hutton, Fornfelt. "Cystitis," C. R. Fleming, Farmington. "The General Practitioner's Diagnosis of Nasal Sinus Diseases," O. A. Smith, Farmington. "Haematuria, Particularly as to Etiology and Diagnosis," Elmo Porterfield, St. Louis. "Medical Jurisprudence," Hon. Benson B. Cahoon, Fredericktown, Mo.

BOOK REVIEWS

A Text Book of Diseases of Women. By J. Clarence Webster, B. A., M.D. (Edin.) F.R.C.P.E., F.R.S.E. Professor of Obstetrics and Gynecology in Rush Medical College, in Affiliation with the University of Chicago, etc,, etc. 372 Text-Illustrations and 10 Colored Plates. Philadelphia and London, W. B. Saunders Co. 1907.

This work chiefly is based on an extended clinical experience but unusual prominence in it is given to the scientific basis of each subject under consideration. A special endeavor has been made to include all the important original investigations of recent years, so that Webster's book actually represents the present-day knowledge upon a subject of the greatest importance to every practitioner.

Catholic Churchmen in Science. Sketches of the Lives of Catholic Ecclesiastics who were among the Great Founders in Science. By James J. Walsh, M. D., Ph.D., LL.D., Professor of Medical History, Fordham University Medical School, and Professor of Physiological Psychology in St. Francis Xavier's College, New York. Philadelphia: American Ecclesiastical Review (Dolphin Press). 1906. Pp. x-221. Price, $1.00 (plus 8 cents postage) net.

Dr. Walsh's book is of special interest to physicians because four of the sketches are those of practising physicians and all of the men whose lives are given made contributions to science that have been of the greatest usefulness in medicine.

Modern Medicine. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia and in McGill University, Montreal. Assisted by Thomas McCrea, M. D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 1,000 pages each; illustrated. Volume I *just ready*. Price per volume, cloth, $6.00, *net;* leather, $7.00, *net;* half morocco, $7.50, *net.* Lea Brothers & Co., Publishers, Philadelphia and New York, 1907-1908.

From every viewpoint, scientific, literary and practical, this new work just coming from the press promises to be the most important ever undertaken in medicine. A complete restatement has become necessary to convey a grasp of the present development of medical science and art. Fortunately, this is now about to be done, and under

the best auspices. Professor Osler combines every quality essential for leadership in such an enterprise.

Familiar with the literature of medicine, he is also acquainted with the personnel of the leaders in the various lines of investigation. So recognized, he has been able to unite them in a skilfully planned work covering the whole domain.

The first volume, which has now come to hand, contains an Introduction by the Editor himself, which he entitles "The Evolution of Internal Medicine"—a most interesting history of medicine from pre-Hippocratic times to the present day.

To this is added a forecast of the lines on which further development would most fruitfully proceed.

Dr. J. G. Adami, of Montreal, begins the body of the volume with an article on "Heredity and Predisposition." The article is thoroughly up to date, and from the charm of the author's style, this most important subject is made very easily understood.

"Auto-intoxications," from the pen of Dr. Alonzo Engelbert Taylor, of San Francisco, is another of these conclusive and exhaustive articles on a difficult subject. His treatment of the question of Gastro-Intestinal Auto-intoxication is of the most illuminating character, and is full of helpful suggestions to the general practitioner in the treatment of diseases consequent on malnutrition.

Nearly 60 pages are devoted by Dr. Charles F. Craig, U. S. A., to the consideration of "Malarial Fevers." The article is comprehensive, accepting, of course, the theory of transmission by mosquitoes, and pointing out that a fever which is not cured by the proper administration of quinine is not of malarial origin. His suggestions as to prophylaxis are in every respect valuable.

Other thoroughly practical clinical articles are those by Dr. Thomas B. Futcher, of Johns Hopkins, on "Diabetes and Gout;" by Dr. J. M. Anders on "Obesity;" and by Dr. George F. Still, of London, on "Rickets." The scientific physician will regard the profoundly scholarly article on "Metabolism, Normal and in Disease," by Chittenden, of Yale, as of fundamental value. There are excellent articles, also, by Drs. Alfred Gordon and David L. Esdall, of Philadelphia, Alexander Lambert, of New York, F. G. Novy, of Ann Arbor, James H. Wright, of Boston, and others.

Modern Medicine, the best fruitage of the new era, is a work for every physician who would keep qualified for the full discharge of the duties attaching to the most responsible of all professions.

AMERICAN MEDICAL ASSOCIATION.

Next Annual Meeting at Chicago, 1908.

President: JOSEPH D. BRYANT, New York City.
President Elect: HERBERT L. BURRELL, Boston.
Secretary and Editor: GEORGE H. SIMMONS, 103 Dearborn Ave., Chicago.

MISSOURI STATE MEDICAL ASSOCIATION.

Next Annual Meeting, Springfield, May 1908.

President: W. S. ALLEE, Olean.
Vice Presidents:
THOS. B. COOKE, Rayville; A. H. VANDIVERT, Bethany; CHAS. HOUGH, Jefferson City; J. P. DUNIGAN, Holliday; O. F. PILE, Memphis.
Secretary: A. W. McALESTER, Jr., Kansas City.
Assistant Secretaries: PAUL Y. TUPPER, St. Louis; GAIL ALLEE, Lamar.
Treasurer: J. FRANKLIN WELCH, Salisbury.

Medical Section.

Chairman: T. F. LOCKWOOD, Butler. Secretary: GAIL ALLEE, Lamar.

Surgical Section.

Chairman: H. E. PEARSE, Kansas City. Secretary: P. Y. TUPPER, St. Louis.

ORATORS.

Oration on Medicine:

JOHN H. DUNCAN, St. Louis.

Oration on Surgery:

HERMAN E. PEARSE, Kansas City.

COMMITTEES:

Committee on Scientific Work.

H. E. Pearse, T. F. Lockwood, P. Y. Tupper, Gail Allee.

Publication Committee.

W. B. Dorsett, Chairman. M. B. Clopton, M. C. Shelton.

Committee on Public Policy and Legislation.

C. E. Fulton, Chairman; H. E. Pearse, Geo. W. Wilson.

Committee on Medical Education.

N. B. Carson, Chairman; C. M. Jackson, E. W. Schauffler.

Committee on Tuberculosis.

Wm. Porter, Chairman; W. M. Bayliss, J. B. Norman, M. P. Overholser, Tinsley Brown.

COUNCILLOR DISTRICTS AND COUNTIES IN EACH DISTRICT.*

F. J. LUTZ, Chairman. E. J. GOODWIN, Secretary.

First District.—Councillor, C. L. Evans, Oregon. Counties: Holt, Atchison, Nodaway.
Second District.—Councillor, W. T. Elam, St. Joseph. Counties: Buchanan, Andrew.
Third District.—Councillor, W. E. McKinley, Denver. Counties: Harrison, Worth, Gentry, DeKalb.
Fourth District.—Councillor, C. R. Buren, Princeton. Counties: Grundy, Sullivan, Mercer, Putnam.
Fifth District.—Councillor, E. E. Parrish, Memphis. Counties: Clark, Scotland, Schuyler.
Sixth District.—Councillor, H. Jurgens, Edina. Counties: Adair, Knox, Lewis.
Seventh District.—Councillor, L. W. Dallas, Hunnewell. Counties: Shelby, Marion, Ralls.
Eighth District.—Councillor, W. B. Dorsett, St. Louis. Counties: Lincoln, St. Charles, St. Louis, Pike.
Ninth District.—Councillor, Woodson Moss, Columbia. Counties: Audrain, Boone, Howard, Callaway, Warren, *Montgomery.*
Tenth District.—Councillor, C. W. Reagan, Macon. Counties: Macon, Randolph, Monroe.
Eleventh District.—Councillor, J. D. Brummall, Salisbury. Counties: Chariton, Carroll, Livingston, Linn.
Twelfth District.—Councillor, E. H. Miller, Liberty. Counties: Platte, Clay, Ray, Clinton, Caldwell, Daviess.
Thirteenth District.—Councillor, N. P. Wood, Independence. County: Jackson.
Fourteenth District.—Councillor, C. T. Ryland, Lexington. Counties: Lafayette, Saline, Cooper.
Fifteenth District.—Councillor, M. P. Overholser, Harrisonville. Counties: Cass, Johnson.
Sixteenth District.—Councillor, J. R. Buchanan, Nevada. Counties: Bates, Vernon, Barton.
Seventeenth District.—Councillor, R. D. Haire, Clinton. Counties: Pettis, Henry, Benton, St. Clair, *Hickory.*
Eighteenth District.—Councillor, Frank DeVilbiss, Eugene. Counties: Miller, Moniteau, Morgan, Camden.
Nineteenth District.—Councillor, G. Ettmueller, Jefferson City. Counties: Cole, Osage, Maries, Gasconade.
Twentieth District.—Councillor, F. J. Lutz, St. Louis. Counties: Franklin, St. Louis City.
Twenty-first District.—Councillor, B. M. Hypes, St. Louis. Counties: Jefferson, Ste. Genevieve, Perry.
Twenty-second District.—Councillor, J. D. Porterfield, Jr., Cape Girardeau. Counties: Scott, Madison, Cape Girardeau, Mississippi, *Bollinger.*
Twenty-third District.—Councillor, D. R. Corbin, Bloomfield. Counties: Stoddard, Dunklin, Pemiscot, New Madrid.
Twenty-fourth District.—Councillor, J. J. Norwine, Poplar Bluff. Counties: Wayne, Butler, Ripley, Carter.
Twenty-fifth District.—Councillor, F. L. Keith, Flat River. Counties: Washington, Reynolds, Iron, St. Francois.
Twenty-sixth District.—Councillor, R. L. Johnson, Rolla. Counties: Crawford, Phelps, Pulaski, Laclede, Dent, *Dallas.*
Twenty-seventh District.—Councillor, H. C. Shuttee, West Plains. Counties: Howell, Shannon, *Ozark, Oregon, Texas, Wright, Douglas.*
Twenty-eighth District.—Councillor, T. A. Coffelt, Springfield. Counties: Greene, Lawrence, Barry, Stone, Christian, Webster, Polk, *Taney.*
Twenty-ninth District.—Councillor, A. R. Snyder, Joplin. Counties: McDonald, Newton, Jasper, Cedar, *Dade.*

**Counties in Italics are not organized.*